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MODEL RAILWAY JOURNAL

No.95
1997

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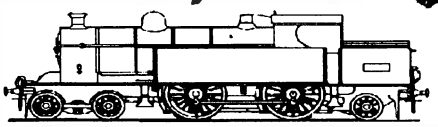

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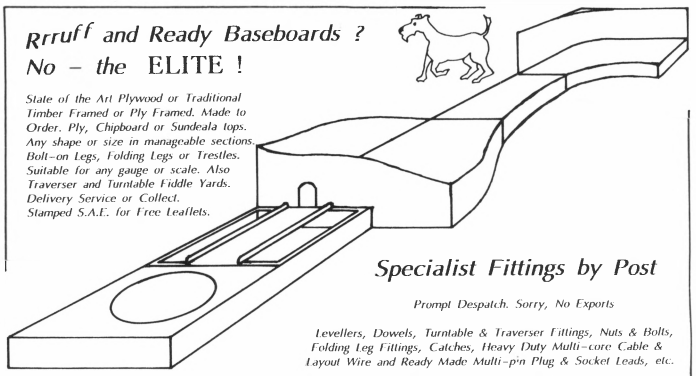

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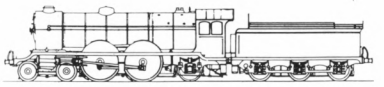

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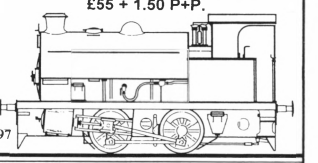

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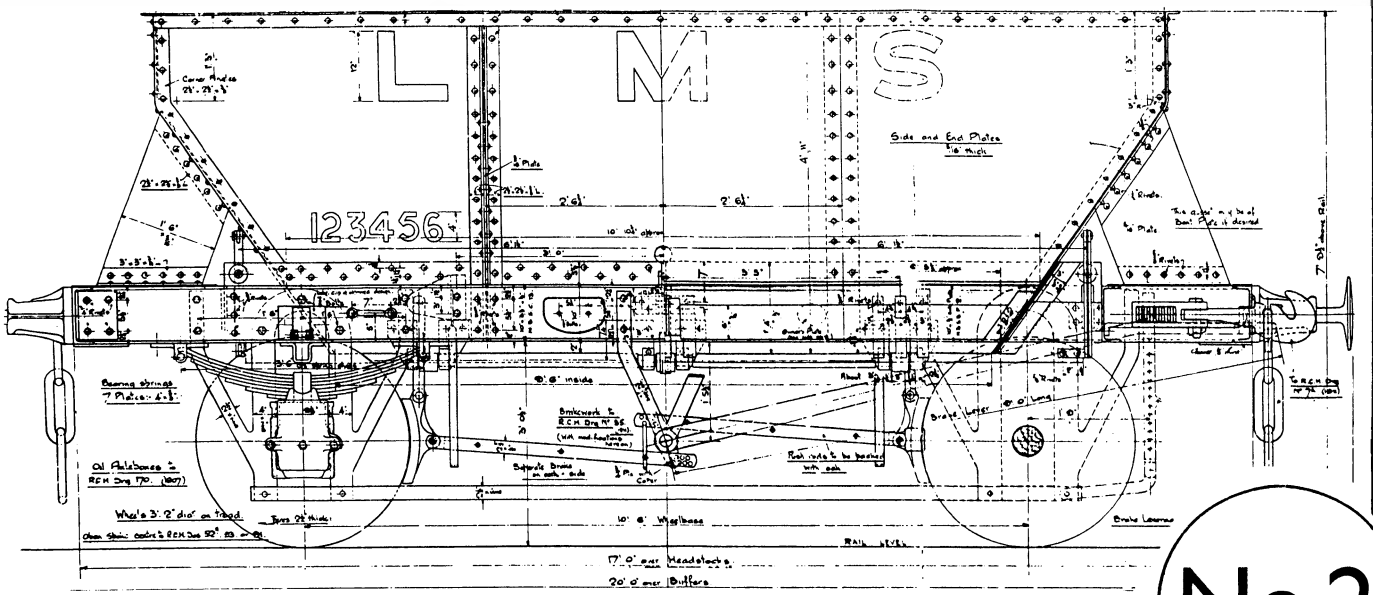

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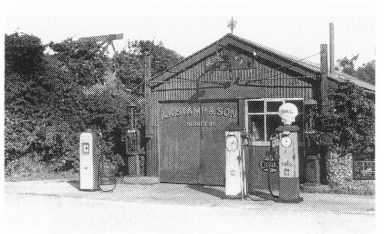

Cover photo: Martyn Welch's 7mm model of a country garage.
MARTYN WELCH

Back to the Future

The future is big business in modelling these days. Big, that is, in almost every corner of the hobby except ours. Sure, we spend a lot of time wringing our hands over the question of whether railway modelling as an interest will survive much beyond the turn of the millenium; we take on board (eventually!) new techniques and materials; and we sometimes wonder what Hornby, Lima and Bachmann will be turning out next season. But nobody actually tries to model the future. Nobody seems to be speculating on the direction of railway design, technology and style and where it will be in 20, 50 or 200 years from now – and then using their creativity to transform that speculation into convincing (or even unconvincing) models.

As someone who has always found it fascinating and educational to try keeping up with developments in other modelling disciplines, a large number of non-railway modelling magazines find their way across my desk, some of my favourites being *Finescale Modeler* (with its infuriating shortage of an 'l'), *Scale Auto Enthusiast, Model & Collector's Mart* and *Military Modelling*. It is clear from reading the first three of these that, ever since Gerry Anderson launched Fireball XL5 at an unsuspecting TV audience, interest in matters science-fiction has been growing steadily, fuelled by films and programmes like Close Encounters, Star Wars, and The X Files. Indeed, *Model & Collector's Mart* is stuffed with kits for everything from Daleks to Red Dwarf's 'Starbug' and Captain Scarlet to the Beast From The Swamp. Having been hooked on Dan Dare from the age of eight, I can sympathise with all this, which is these days usually lumped under the 'Sci-Fi/Fantasy' heading. That's now a bit of a misnomer, because thanks to the thoughtful model-makers of Hollywood and elsewhere – who used their imagination to build spacecraft, vehicles, weapons and day-to-day items as they thought they might appear in the future – an interesting thread of futurism has emerged in the modelling fraternity, especially among those interested in aerospace and automotive subjects. These people, many of them serious-minded and highly-skilled craftsmen, are using their knowledge and skills to build extremely believable models of the 'transport of the future'. Educated guesswork it may be, but it is attracting a lot of attention in the modelling press – in much the same way that 'concept cars' produced hy motor manufacturers grab the headlines.

Beyond the odd monorail train set - and monorails are hardly a new idea – the model railway hobby throws up nothing vaguely futuristic or speculative. The majority of us stay firmly stuck in the past (including all of us here at MRJ) because we are emotionally motivated by nostalgia. Even those who model the present-day railway scene, let alone tomorrow's, are almost certainly in a small minority. It wasn't always so. If I can bring nostalgia to bear on an argument for futurism, I can remember regular articles in my *Eagle* and *Lion* annuals featuring drawings and plans for railways of the future – and 'space age' locos built by the great Walkden Fisher, looking like sleek prop-driven airliners on rails. This was the period in which I became captivated by model railways – and these excursions into an unknown future were all part of the excitement. Is it, I wonder, an excitement that we ought to seek again?

Bob Barlow

MODEL RAILWAY JOURNAL

Edited by Bob Barlow. Designed by Paul Karau.

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EXPO EM '97

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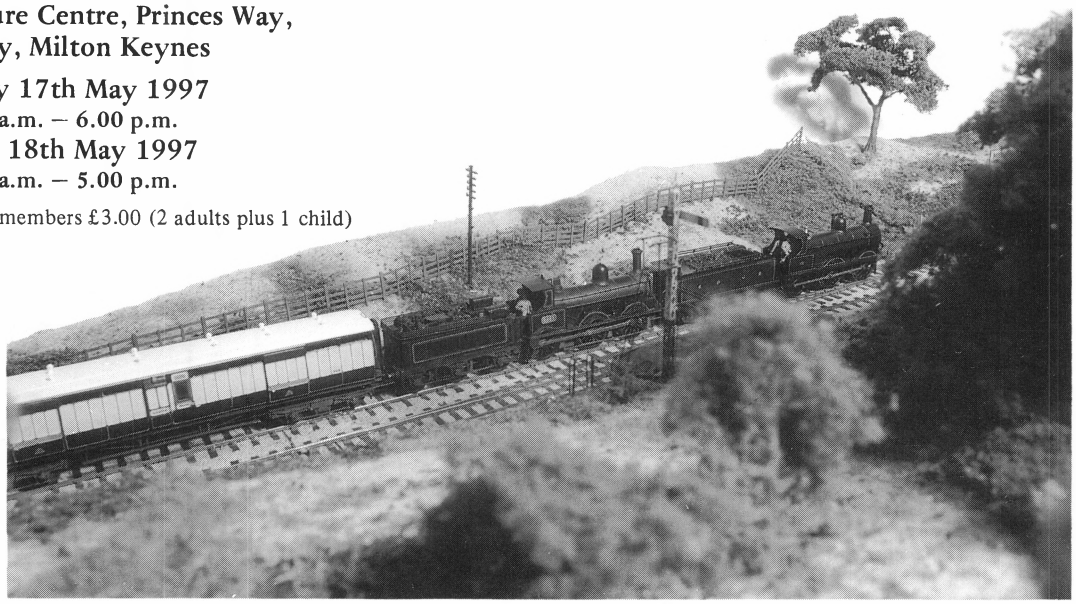


Right: *The South Hants MRC's EM gauge 'Midsomer Norton & Welton'.* Below: *This six-wheeled brake by D&S can be seen on the 'Midsomer Norton' layout.*

LAYOUTS

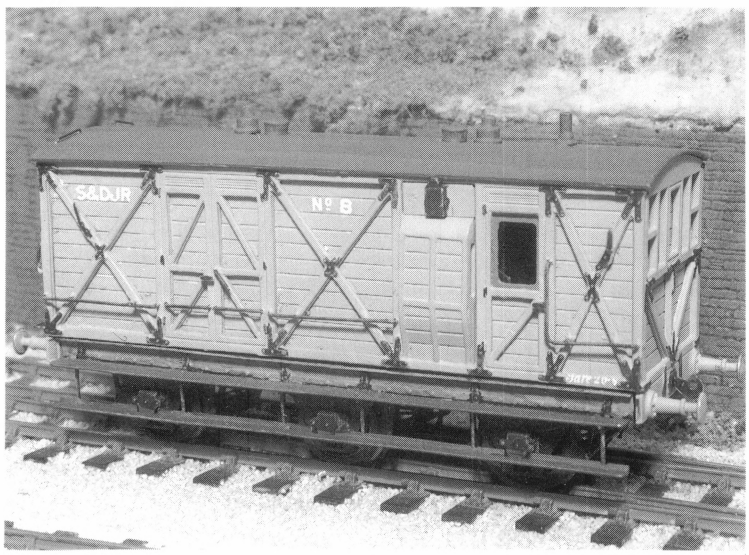
DARTLEY: P4, Pete and Jeff Day – Fictitious GWR seaside town on the North Devon/Cornwall coast between 1925 and 1933.

CRICHEL DOWN: P4, Martin Goodall – The remote rural terminus of the Mid Wessex Light Railway, an independent standard gauge line in rolling chalkland.

EASTWELL STATION: EM, East London Finescale Group – Fictional ex-Midland line through the high wolds of Leicestershire in the 1930s.

SWAN STREET GOODS: EM, Chris Hewitt – British Railways (London Midland Region) of the late 1950s with steam and diesel locomotives that could be seen in the Liverpool area at the time.

BROOKFIELD: EM, Ray & Cida Earl – An attempt to build a fine-scale exhibition model railway, as opposed to a model of an actual railway.



BOOTH: EM, Deryck Senior – Fictional location on the Midland route between Sheffield and Manchester in the late 1950s.

TENTER BROW: EM, Arnold Belfield and the Rassbotton Brow Group – Imaginary terminus in LMS days, based on the L & YR prototypes.

MIDSOMER NORTON & WELTON: EM, South Hants Model Railway Club – Located on the Somerset & Dorset Joint Railway's Bath extension and modelled in the Edwardian period, with S&DJR, LSWR and Midland stock featured.

AMBERGATE: EM, John Webb – Based on a prototype north of Derby, the model is set in the early 1900s.

MARDYKE & LIMEKILN WHARF: EM, Tony Stoker and Jim Noble – 1950s portrayal of the area around a small town lying on an estuary flowing into the Bristol Channel.

HOLMSWORTH: EM, Kier Hardy – Late 1970s in the centre of West Yorkshire around what remains of L&YR structures and the now partially-overgrown exchange sidings.

KINGSBRIDGE: EM, Frank Davies – Terminus of a branch from Brent, on the GWR main line between Exeter and Plymouth, to Kingsbridge, set in the early 1930s.

GASWORKS ROW: EM, Brian Wakeling – A small industrial estate connected to a goods yard on the north eastern outskirts of London. The year is 1912, and the Midland Railway is about to take over the LT&SR.

ENSTONE HALT: EM, Graham Vickery – Originally constructed ten years ago as a first experiment in EM gauge modelling.

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Unfortunately, Wild Swan will not have a stand at this year's Expo EM, but we have already applied to the organisers in the hope of a stand at Expo 98.

Midsomer Norton & Welton

This 4mm/EM layout, built by members of South Hants MRC, which has appeared at many exhibitions around the country over the last ten years, is due to make its final outing – at least as an EM gauge layout – at the next ExpoEM (see details in this issue). It took five years to build and was originally started as a solo project by club member TONY SULLIVAN, who explains its background here:

What makes someone want to build a model of a railway, especially if it is one they have never seen? Well, as a child I wasn't lucky enough to own an electric train set (a clear sign of a deprived childhood, I now know) although I was brought up on a diet of the late Rev Awdry's colourful little steam engines. What's more, our back garden overlooked the GWR's main line to Cornwall and when I was at the tender age of three, my father built a stile which enabled me actually to see the trains as well as to hear them.

To be honest, I was quite disappointed with what I saw – the real thing turned out to be many shades of rust and dirt instead of the bright red, green and blue I expected. As you can imagine, this realisation inflicted terrible damage on me, as I honestly believed that all real steam engines were either black or dark yucky green until I was 31 years old.

For me, the later years of steam did nothing but exude grime and decay. It certainly wasn't a very colourful period and held no interest at all to me, a budding art student. I realise many people will disagree with my writing-off the final years of BR steam, especially as many recent high-class, finescale layouts – most notably Chris Pendlenton's magnificent 'North Shields' – have been exceptional exercises in the recreation of what the builders remember of that particular period from their youth.

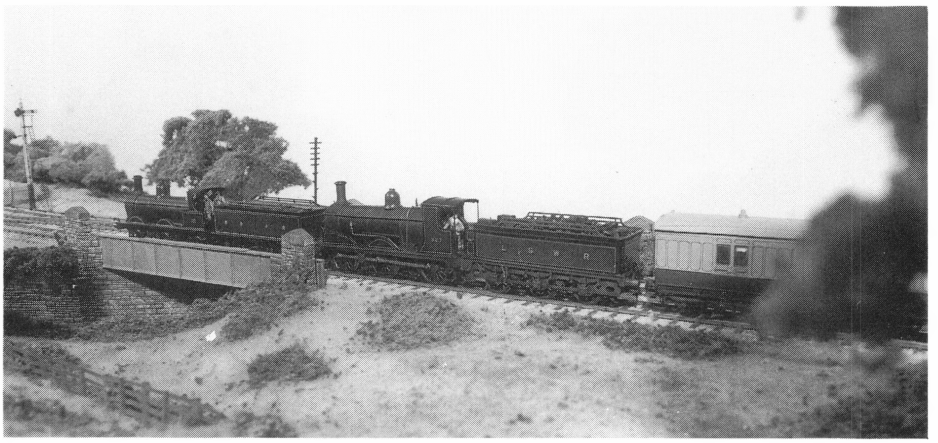
Still, it does go some way to explain why I chose to model the Somerset & Dorset in its blue era. This question 'Why?' is often asked of me, as, until comparatively recently, layouts built based on this prototype were rare (except, perhaps, those portraying the line in the 'fifties and 'sixties when almost anything ran on it). The real answer, though, is sheer chance. While browsing through the railway section of the local bookshop, I came across Robin Atthill's book on the SDJR with its cover painting of a beautiful *blue* engine and coaches. Having bought the book and devoured the contents, I found that the designer of these beautiful blue engines – one Samuel Johnson – worked for the Midland Railway who created *red* engines, and, that the SDJR was owned and administered jointly by the Midland and the London & South Western Railway, which had salmon *pink* coaches! Did the Rev Awdry live in Somerset, I wonder? All that colour – I was hooked! I decided that I had to try to capture it in a three-dimensional form and set about collecting every book on the SDJR that I could find. Not for me the images of childhood – I was harking back to a colourful fantasy era, a time when proud railway companies employed personnel who would spend all night cleaning one locomotive and whose station buildings were bright, colourfully-painted objects of beauty.

I now had to decide whether to model an actual station or an S & D 'might have been'. After much heart-searching, I decided it had to be something that existed in reality and I set about considering each SDJR station in turn. The late Ivo Peters' books and films played a great part in this quest, as did members of the SDJR Trust. The deciding factor was the purchase of a second-hand copy of John

Childs' book on Midsomer Norton, published by the HMRS in 1982. Then, one horrible Sunday in December 1987, I decided to visit the site of the station and, to my surprise, found that it was still there. In fact, it had been partly restored by the local council and was being used as an annexe for the local technical college. The next weekend I started building the baseboards . . .

Midsomer Norton station was built on the Somerset & Dorset's Bath Extension overlooking the town it served. It was rather inconveniently situated at the top of a long hill and was quite a long walk from the town. It opened for traffic on 20th July 1874 on the single-line extension, 12 miles from Bath and 13 miles from Evercreech Junction. From 1st November 1875, the Somerset & Dorset was leased by the London & South Western Railway and Midland Railway, the former being responsible for the permanent way and the latter for providing the motive power.

The first material evidence of the station is the Ordnance Survey plan Somerset 29/9 which was published in 1886. This shows a single line with passing loop and three sidings. One of these passed through a goods shed joining another siding on a wagon turntable, while another served a loading dock. The third siding terminated in what appears to be an end loading-dock. No signal box is visible, nor is an Up starter signal shown. Until October 1898, the station was named Midsomer Norton, but after this date it was known as Midsomer Norton &



Although Midsomer Norton usually runs to the 1920 timetable, it is often shown running on a summer's day during the First World War. Here a troop train passes over Silver Street bridge after the long climb from Radstock, taking a few more unfortunate squaddies to Bulford Camp.

Silver Street bridge, which proved so awkward to model.

Photos: PHILIP HALL

Welton. As I have chosen to model the period around 1920 – mainly because that is the year of the timetable that I have been given by Richard Dagger of the Trust – then that is the full name of the layout.

THE MODEL

I do not propose to tell you how the baseboards were built, except that they involved wholly traditional methods, with all joints aligned with pattern-maker's dowels (as sold by the EM Gauge Society). Around the time they were completed, Len Newman – the original owner of C & L Finescale Components – introduced his excellent chairs and plastic sleepers, so the decision was made to build the turnouts using this (then) revolutionary system. To be honest, we have experienced a few problems with gauge narrowing and lifting at the point vees. However, most of these problems were the result of lack of knowledge on our part. The learning curve definitely prevails when making turnouts using these components and, as there are many good articles and books on these construction techniques, we urge modellers to read up and experiment by making a few dummy turnouts before proceeding.

As can be seen, the topography of the area requires both embankments and cuttings to be modelled. These have been made using polystyrene blocks cut to shape with a home-made hot wire cutting tool. The shaped blocks were stuck to the board and to each other with Resin W glue and then covered in Gypsona medical plaster bandage (just like Modroc). After drying, the hills were first painted with poster paint, although this seemed to have caused a slight reaction and a loose, powdery plaster skin resulted. We had to sandpaper this away and apply a new top skin of Polyfilla which duly dried to provide the required hard base. Large quantities of white surgical lint were dyed olive green with Dylon multi-purpose dye No. 34 and, when dry, stuck face down in the way described in Barry Norman's book *Landscape Modelling*. This is simple to write but we had to develop the knack of gluing the lint just enough so it would both cover the area whilst still allowing the backing weave to be removed – a bit of a trial-and-error job but the results have been worthwhile. Longer grass and brambles have been represented by bleached carpet underfelt, glued in clumps and sprayed with acrylic paints in situ. Further texture was later added using scenic scatter materials held in place by spray glue (and hairspray). Hedges and bushes are represented by Woodland Scenics foliage teased over rubberised horsehair pads.

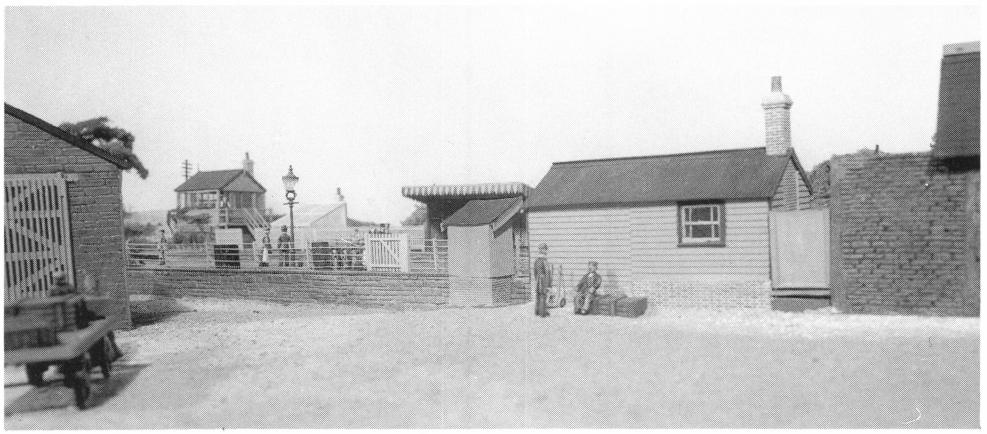
An unrebuilt Johnson 'Bulldog' drifting into Midsomer Norton & Welton with a train of cattle empties.

The hand-scribed stone station building made by Dennis Prince, brought to life by Andy Kern's little people waiting for the next stopping passenger to Evercreech Junction.

The trees are a very dominant feature of the layout – there are about 85 of them all made individually to represent various types and sizes. Each tree is made from a core of plastic-coated galvanised wire rope (as sold in the large DIY stores) which is untwisted and cut into a framework. This is then coated with glue from a hot glue gun and Resin W glue to complete a plastic coat that adds bulk to the framework and represents the bark of the tree. Leaves are represented by foliage pads torn from Woodland Scenics and Heki foliage net. The pads are teased to shape and glued to the tips of the tree framework with a thixotropic adhesive, such as Timebond or Thixofix.

Signals are LSWR lattice post types using Model Signal Engineering components operated by standard Type 3000 PO relays which have been fitted with an extension piece – a lead weight fitted into a tube under the signal base, rests on the extension piece. Care was needed to minimise the mechanical resistance of the signal operating gear so that the lead weight is capable of resetting the signal to 'On'. This system allows the removal of the signals in transit without unseemly grovelling under the layout.

Passenger stock and locomotives are all kit-built, mainly from the Alan Gibson,



For hours on end, not much happened at MNW. Philip Hall's photographs illustrate that there is much more to model railways than locos, stock and trackwork.

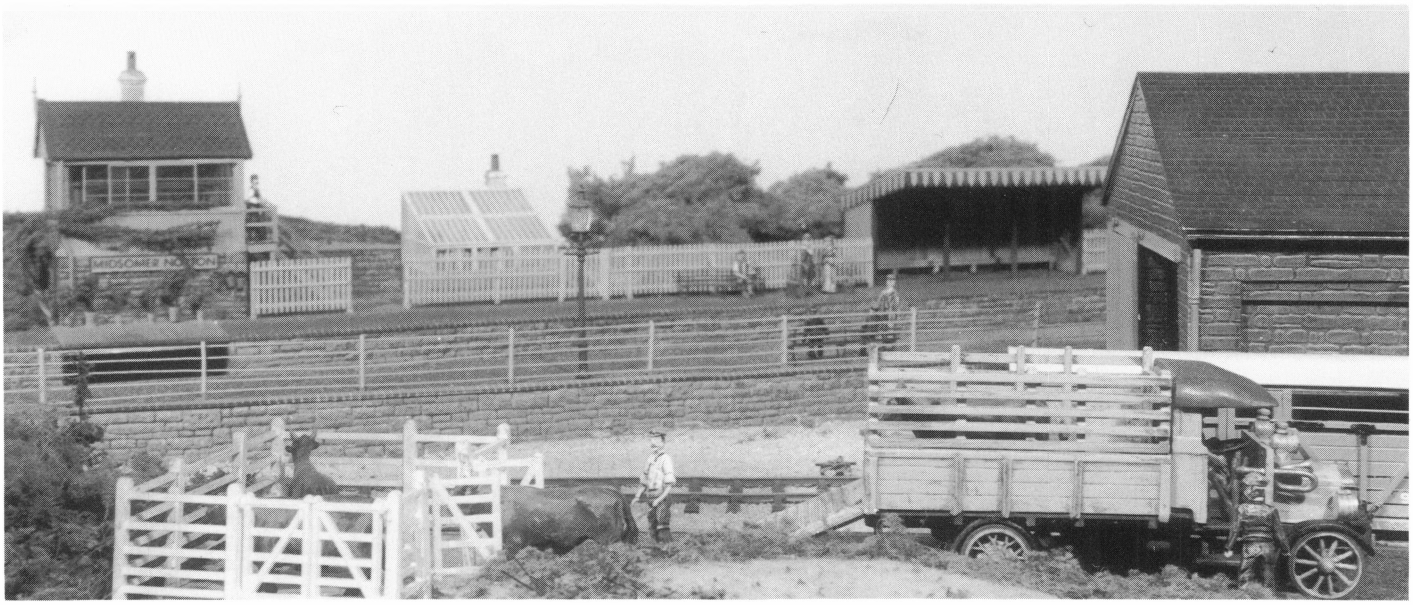
Blacksmith and Craftsman ranges, with a couple of old and, sadly, no longer available kits from MPD.

The goods stock of the SDJR in the Edwardian period was largely based on MR and LSWR diagrams. In 1914 the goods rolling stock was divided between the two owning companies. The livery of our wagons cover both periods. As many of the wagons are from the MR diagram book, it is not surprising that Slater's kits provide a good basis for conversions. Their five-plank and three-plank wagons need only minor ironwork and brakegear changes. In fact, some S & D van bodies need no changes at all, whilst cattle vans take just a bit more work to adjust the open planking to make a reasonable if not perfect conversion. Ironwork is changed using a 5 and 10-thou plastic card with 0.3mm chipped cubes of Microstrip added to represent bolt heads.

Wagons based on LSWR diagrams are fewer. Vans and meat vehicles, for example, can be converted from Chivers or the old Maple Models kits, and D&S have recently provided a cattle van and plan to introduce the SDJR variant soon. Although several wagons can be made by conversion and kit-bashing, some need to be scratchbuilt if the full range is to be represented. To date, only a 10-ton outside-framed brake van has been made in this way, but a 20-ton brake is progressing slowly. Other brake vans presently in use on the layout are adaptations of Slater's MR and D&S GWR kits.

Private owner wagons are a prominent feature, specifically the trains of full and empty coal wagons to and from Norton Hill Colliery. At present we have two long rakes of each, both featuring many Cambrian wagons all with different numbers. These coal trains are pulled by an Alan Gibson 7F (the one without the tender cab) which has extra weight in the boiler. All wagons are weighted to about 2oz and if they are to be shunted, automatic Linc-Up couplings are fitted, otherwise three-links are standard.

What really makes the layout stand out are its buildings and the finer details that bring the layout to life. The platform was constructed by making a light framework of 18 x 3mm hardwood obtained from the local DIY store, upon which was laid 0.028in plywood as used by model boat builders. The face of the platform was smeared with UHU glue, allowed to dry and then strips of Wills random stone walling sheet were attached with Mek. Lengths of Slater's planking, cut into strips across the line of the planking, were similarly welded to the edges of the platform. Finally, the surface was painted with PVA and Ray Hodson's mixture of Hayling Island sand and the black foam residue retrieved from under worn-out carpet underlay!

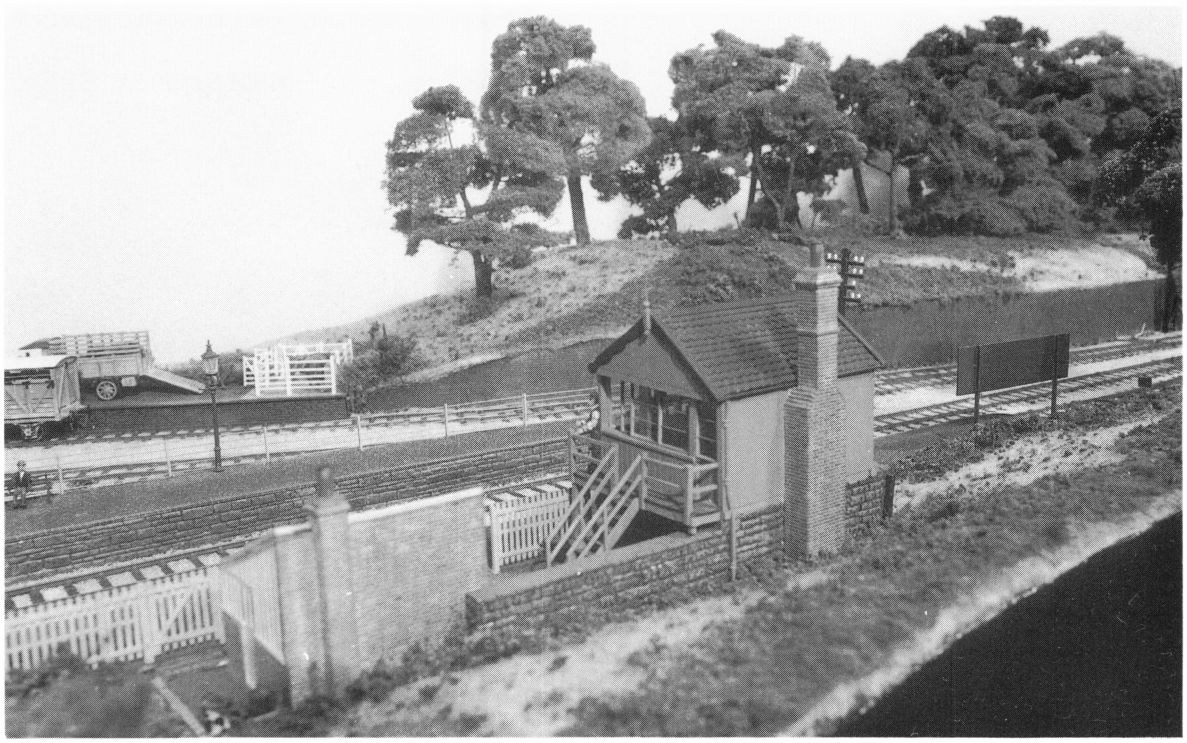


Passengers waiting in the sunshine.

No suitable ready-made stone sheet was found to represent the station building itself, so a stone-for-stone model was decided upon. A shell was made first, undersize in length and depth, from 0.020in plastic card, with the window and door openings cut out before assembly. Two internal walls were fitted to strengthen the structure and discourage buckling. The stonework surrounding the doors and windows, along with the corner stones or quoins, were cut from 0.020in styrene and cemented into place. A number of small holes were then drilled all over the shell to act as a key. An approximately 20% mixture of PVA in water was made and a minute drop of yellow poster colour added to give an eventual appearance of sandstone; into this was spooned crack-filling Tetrion until a thick creamy mixture was obtained. This was buttered onto the building, slightly overfilling the trays formed by the window and the corner stones, and everything was left to dry. It was then a simple matter – using reference photos – to mark the stone courses and verticals with a sharp pencil and then scribe the stones with a sewing needle mounted in a piece of dowel.

The roof was constructed from 0.020in plastic card with two triangular pieces to fit snugly inside the end walls and strengthened with two further triangles to prevent distortion. Strips were cut from the sheet of Slater's embossed slates and the plain intervening strips discarded. Narrow strips (about 1/20in) of typing paper were cut and one of these was laid

An Avonside Tank piloting Midland Class M at the head of the Down 'Pines Express' as it slows through the station.

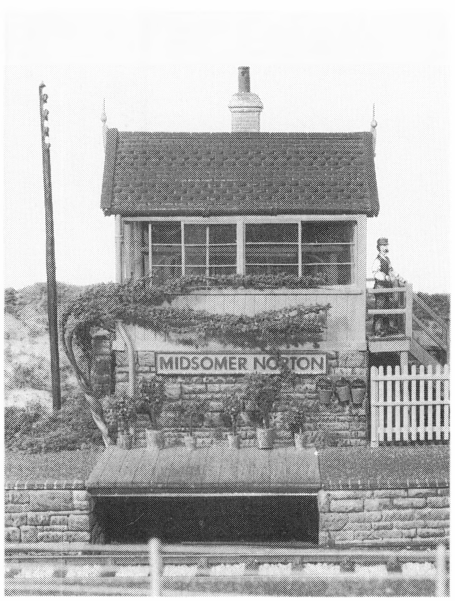


This view and the photograph opposite show one of the lay-out's most prominent features, the long retaining wall and goods area, not to mention a selection of our 85-plus trees.

along the lower edge of the roof and welded with Mek. A strip of the slates was then laid onto this and similarly fixed. Next, a strip of paper was laid beneath the first slate strip, another strip of slates was added, and so on, up to the roof. The ridge was made of a piece of plastic rodding with a strip of 0.010in plastic each side.

The signal box and greenhouse are built on a styrene sub-base and are made from a variety of styrene materials – Wills stone and planking, styrene sheet and Tamiya square section, which is very handy for the corner posts and stairs. The greenhouse is very much a feature of Midsomer Norton and the large area of glass was made by sliding clear styrene over a drawing and applying thin micro-strip lengths for the glazing bars and securing them in position by carefully floating solvent down the edges with a small brush. Brickwork is Slater's embossed sheet, painted a base colour with individual bricks picked out. 'Mortar' was applied with a mixture of grey and white weathering powders, wetted and applied freely with a brush. The powder is wiped off with a tissue before it dries – this has the effect of toning down the colour and tidying up the scruffy paint-work.

The signal box was famous for its roses. The tubs in front of the box are either castings or plastic fire buckets,

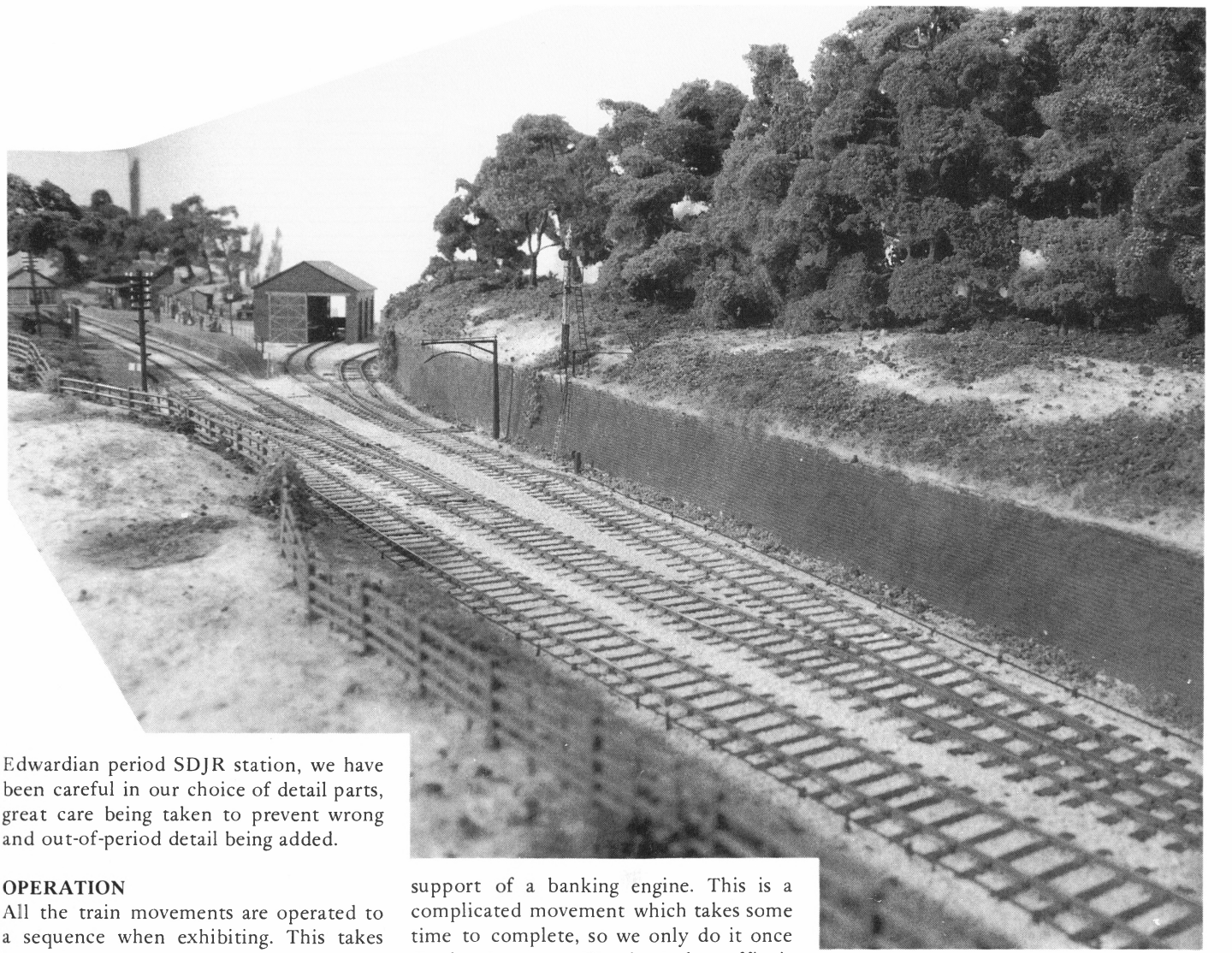


with bushes made from brass picture wire, spray painted, dipped first in PVA and then in scatter material. The roses were picked out in acrylic paint. The climbing roses round the box were made in a similar way.

The bridge across Silver Street seemed to take forever to build, proving to be one of the main difficulties in the construction of the entire layout. The main problems were that it had to be built in situ, because of the awkward angles and the fact that there were no drawings and only a handful of photographs of the bridge's anatomy. Parts of the bridge appeared to have been rebuilt in brick at some stage and, in the absence of evidence to the contrary, we decided that they would have been built in stone during our period! We used Wills coarse stone which seemed a pretty good match. The main advantage of this material is that it is rigid enough to be used without lamination or additional bracing. Its main drawbacks are its thickness, which requires the edges to be chamfered to produce tidy corners – a tedious business. The main girders are from the Wills range and the central girder is a modified Peco product.

In contrast, the goods shed was built as a quickie in order to fill the gap for our first important show. The idea was to eventually replace it with something better at a later date, but this, of course, never happened. However, it stands up well in comparison with other buildings even though it took but a fraction of the time to build – there must be a message here! Apart from the internal platform, which was made from sleeper strip stained with weak black acrylic paint, the entire structure was made from styrene sheet. The walls were clad in Slater's embossed stone and the doors fretted out and made from styrene sheet. The only failures were the windows, which are a bit crude.

To create an overall impression of the location and an atmosphere of an



Edwardian period SDJR station, we have been careful in our choice of detail parts, great care being taken to prevent wrong and out-of-period detail being added.

OPERATION

All the train movements are operated to a sequence when exhibiting. This takes between an hour and an hour-and-a-half to run, depending upon the operators and the amount of distraction from the paying public! The sequence is based on the 1920 working timetable and represents 24 hours starting from midnight. The timetable has been adapted to allow all trains to return to their start position at the end of the sequence, whilst we hope still providing an interesting and realistic cross-section of typical train movements.

Goods services were the mainstay of the line, with particular emphasis on coal traffic through Midsomer Norton, especially with a colliery within the station limits. Norton Hill Colliery traffic often needed to be stopped on the main line while the locomotives were run round when this operation could not be completed within the confines of the colliery. These movements had to be carried out in accordance with the traffic notices which usually required the support of a banking engine. This is a complicated movement which takes some time to complete, so we only do it once in the sequence. Local goods traffic is provided by the down pick-up goods workings; these movements transfer freight into and out of the station goods yard to our own sequence using opens, vans and cattle wagons.

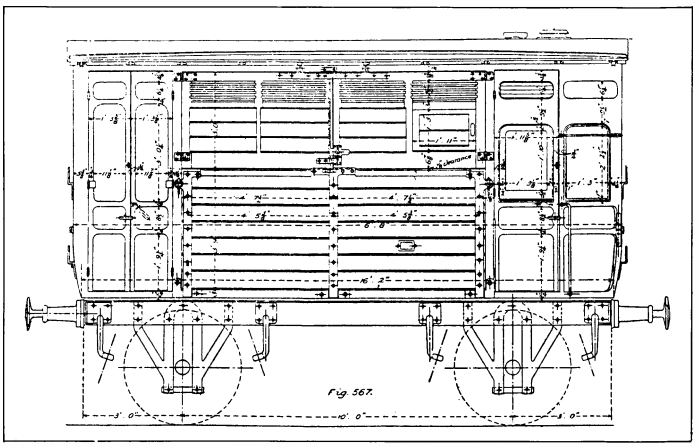
To maintain the interest of the viewers and the operators, we usually have one train movement in view at all times. Quite often we have two trains passing, which always seems to go down well. I rarely operate the layout as I am one of those people, criticised recently, who like shunting at snail-like speeds – but that's not very entertaining, is it?

THE FUTURE

As I intimated in the introduction, MNW – as we abbreviate it – is to be taken off the exhibition circuit pending rebuilding as a P4 layout. The reasons for this are twofold: firstly, the track has never been that good, sometimes resulting in fairly indifferent running. One gentleman I overheard summed it up quite well at the recent Southampton exhibition when he said: "What a beautiful-looking layout – it would definitely be best in the show if the locos ran across the points better!" Secondly, as I am involved in building the P4 layout 'Bitton Spa', for which I will have to provide most of the stock, it would be impractical to keep my stock in EM. Consequently, the decision has been made to try and convert the layout to P4, rebuilding the trackwork. So MNW may yet reappear . . .

Finally, in case you're wondering, I should point out that many of us involved in MNW are members of both the Scalefour Society and the EM Gauge Society. It's probably time they amalgamated to save me two subscriptions and space on the letters page of Scalefour News, but that's another story!

SMALL SUPPLIERS FORUM



One of the many drawings in the reprint of Sidney Stone's Railway Carriages and Wagons *– a GER horse-box.*

TRADE GRAPEVINE

DART CASTINGS of 27 Fremantle Road, High Wycombe, Bucks, HP13 7PQ, has a new price list out, announcing a price increase of five per cent. The good news is that some re-introductions are planned, notably the 4mm station wall clocks (£1.80 for four), GWR timetables and boards (£2.10 per pack of six) and, later this year, SR swan-neck lamps and GWR trackside and 'Private' noticeboards. Other items are being re-vamped and new items planned. Details in return for an SAE to the above address.

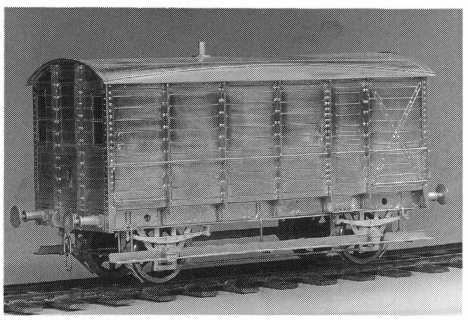
We've seen some high-quality brass castings for 2mm scratchbuilders from N BRASS LOCOMOTIVES of 32 Crendon Road, Rowley Regis, Warley, West Midlands, B65 8LE (01384 250478). Originally made for NBL's range of ready-to-run engines, they are available separately at value-for-money prices. We've looked at fittings for an LNER/BR J50 0–6–0T – smokebox door with dog and a pair of tank fillers at £1.75 each; chimney, dome and safety valve at £1.25 each. Also available are rolled D-section wires in 10 and 20-thou thicknesses at £1.25 for a 12in length.

Amongst the latest 4mm kit developments from LONDON ROAD MODELS are a Belpaire version of the LNWR 0–6–0 'Cauliflower' to satisfy the needs of LMS and BR modellers (kit price £68.00, or a Belpaire conversion pack for buyers of earlier kits, £8.50); and an LMS Stanier Class 2 0–4–4T, based on a revised and re-vamped version of the former Compass Models kit – price £63.00. On the coaching front, there's a new LBSCR four-wheel passenger luggage van (£17.00) to go with the passenger brake mentioned in MRJ No. 94. LRM is at 1 The Avenue, Romford, Essex, RM1 4DL.

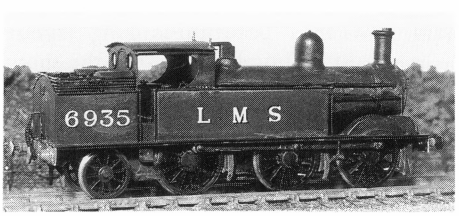
PETER KAY of Orchard House, Orchard Gardens, Teignmouth, Devon, TQ14 8DP (Telephone 01626 776285) has issued part two of his facsimile reprint of Sidney Stone's seminal work of 1903 *Railway Carriages and Wagons*. Part 1 dealt with timber, underframes, wheels, axles, bogies and brakes, whilst the new issue details carriage bodies, painting and finishes, trim, upholstery, interior lighting, ventilation and heating. It is absolutely fascinating, stuffed with superb drawings (as shown here) and costs £8.95 post free, direct from the above address. For anyone interested in the large and small details of the pre-Grouping scene, it is essential reading.

HURST MODELS, who recently moved to PO Box 373, Manchester, M60 2GH, can now be contacted via e.mail. The address is *a.hurst@virgin.net* and can be used for product enquiries and so forth. A Web page is planned to be available later in the year, and will be used to support the construction of Hurst kits by providing colour pictures of the prototypes.

We probably get more requests for the address of MABEX, the waterslide transfer makers who specialise in transport and bus subjects, than any other small supplier. They are at 15 Coastguard Square, Eastbourne, Sussex, BN22 7EE.



Another issue from the prolific Connoisseur Models – this time a GWR permanent way brake van to Diagram AA6 in both 4mm and 7mm scales. In reality, over 50 of these vehicles were built in the dying years of the last century and lived a varied life into BR days (and indeed into preservation – there's one at the Severn Valley), not just as PW brakes but as mess and tool vans and transport/accommodation for platelayers. The kit is etched brass and cast whitemetal with a ready-rolled roof and full instructions and livery details; wheels are needed to complete. The 4mm version costs £12.50 and the 7mm kit is £28.00, both post free from Unit 18, Long Lane Trading Estate, Halesowen, West Midlands, B62 9LD (0121 559 5542). A first class stamp and address label bring the full Connoisseur list.



New from The 3mm Society is this London & North Western Watford Tank. Designed by F. W. Webb and introduced in 1898, all of them passed into LMS ownership with 16 lasting into BR days. Body and chassis are etched in nickel-silver and are a reduction of John Redrup's London Road Models 4mm kit with the addition of whitemetal castings from the 3mm Society's own extensive range. Price is £35.00. Also new are two locomotive kits of Midland Railway origin – a 3F tender loco, a reduction of the J. M. Models 7mm kit (£40.00), and a 2P tender loco (£45.00). All you have to do to get them and any other 3mm kits available to members is join the 3mm Society: membership secretary, 115 Tom Lane, Sheffield, S10 3PE.

A delicate soldering technique, if not asbestos fingers, are in order for this 4mm etched and tube kit from Vintage Kits. It is a standard 1½ ton goods shed crane (based on the surviving example at Portesham) and is shown here on a scratchbuilt wooden base. The kit is reference VK9 and proprietor Nick de Courtais says that it can be ordered from him at 33 First Turn, Wolvercote, Oxford, OX2 8AH at a cost of £9.00 plus 50p post.

MAN THE PUMPS!

MARTYN WELCH reviews a new range of 7mm scale garage accessories from the editor's Classic Commercials stable. They arrived on the scene just in time . . .

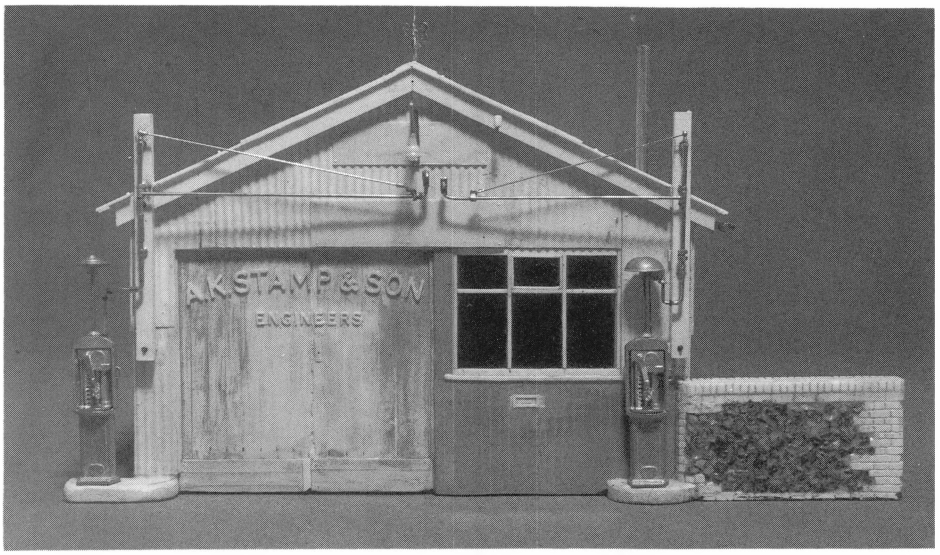
Chatting with Gerry Beale at a recent exhibition, I raised the subject of a small garage I had photographed in Newport, Essex. This had been built during the 1920s and had captured my imagination, with its two ancient Bowser pumps still in situ but overgrown and long out of use, finished in a tired blend of faded green and rust. I said these would be a challenge to scratchbuild and mused that they would probably take longer to model than the garage itself, whereupon Gerry told me that Bob Barlow was about to introduce a new range of kits – under his Classic Commercials label – which I might find interesting. Following a swift telephone call, a parcel containing assorted kits and photographs arrived at my doorstep a couple of days later.

The first kit was ideal for my project because it contained sufficient parts to create two Bowser petrol pumps which can be painted and decalled for either Pratts or Shell brand petrol, having two Shell globes plus a pair of solid pill globes as alternatives. These, plus the main body parts, are in whitemetal whilst the internal mechanisms and hand guns are neatly cast in lost wax brass. Hoses are represented by thin copper wire, and extra assorted lengths of brass wire are included for handles, further pipe feeds, etc. I gather there are two examples of these particular pumps at the Chalkpits Museum at Amberley, Sussex, and photographs of my Essex examples were similar enough to warrant adapting the kits rather than spend endless hours making exact copies from brass sheet.

Typewritten assembly instructions are straightforward using additional exploded diagrams plus scale drawings suggesting alternative forecourt arrangements of the overhead pipework. Any dimensions of which I was uncertain could be measured directly from the scale drawings and I found assembly pleasantly absorbing. The overhead pipework on the Essex garage differs to the arrangements in the instructions and I fabricated this from brass rod and tube, referring to my own on-site measurements.

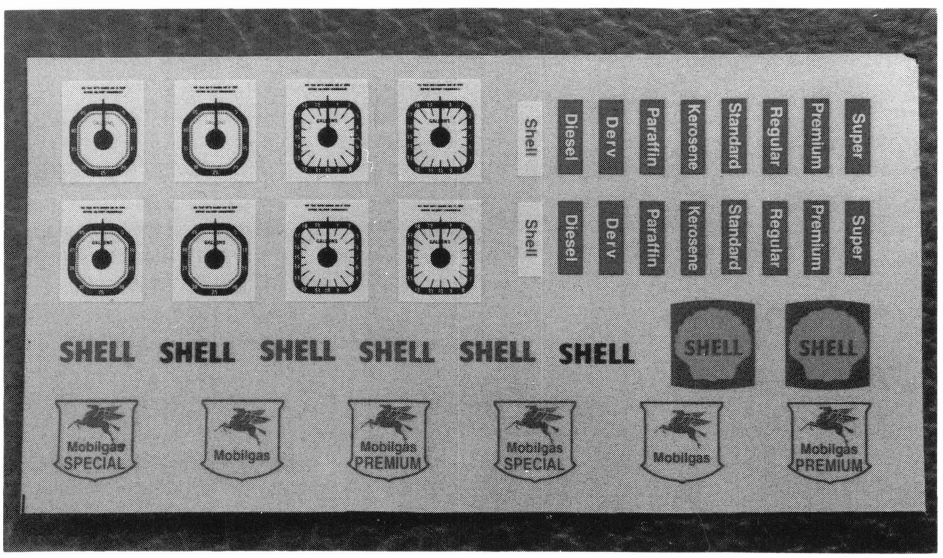
The painting instructions suggest yellow for the Pratts pump or red for the Shell version but I was obliged to choose faded green for my own needs. The cast whitemetal and brass parts required minimal cleaning up and I painted the internal mechanisms in a rusty finish rather than follow the detailed colour scheme recommended. Quality waterslide transfers are provided for the early Shell or Pratts scroll logos which would have been attached to the globes when new, plus the gauge dials and Bowser name-plates – the latter I affixed and toned down a little to indicate their lack of current use. The separate instruction sheet covering the installation of transfers has a photograph showing two full-size pumps in situ at a genuine garage which also helps clarify any uncertainties.

Had I wished to install two later period pumps on the forecourt, then the second kit supplied would be ideal. This is described as the 'mid-period' set and the pair of pumps would be right for the 1940/1950 era – although they obviously



Above are the early Bowser pumps. The left-hand pump's head I substituted with a 4mm station lamp casting which happened to match the prototype in Newport.

The garage accessory set.



These superbly crisp waterslide transfers are supplied with the modern pumps set. All the kits have transfers of similar quality.

continued in use beyond this in more obscure locations. Sufficient parts are provided to enable construction of one double-sided round-dialled and one double-sided octagonal-dialled pump or single-sided pairs if matching pumps are required. Either Shell or Mobil can be represented, the former having the distinctive Shell globes cast in white-metal as in the Bowser kits whilst the Mobil pumps have no globes. Alternative castings for either the castle or bevel based tops are provided, enabling an assortment of combinations to be built; the variations are itemised in the instruction sheet. Once again, waterslide transfers for the dials, company emblems and grades of fuel are provided and are exquisitely printed. Fortunately, photographs showing the completed models are included which enabled me to choose the correct combinations of colours and transfers. Having no photographs of my own showing pumps of this period, I would have been worried that my own selection might have proved wholly inaccurate. Assembly was again straightforward, although for one pump I chose not to use the copper wire for the pipes. Instead, I drilled the brass header fitting and soldered in place a spigot of fine brass wire and did likewise to the hand set. Then, stripping the inner wire from some fine black electrical cable, I used the outer sheath as the pipe by slotting the empty tube over the two spigots of wire. The tube retains a natural shape and has a black sheen finish ideal for the rubber pipe without further painting.

With the Shell pump, I wasn't quite sure where the red/yellow body paint waist border line should be and hazarded a guess from the model photographs supplied. With the transfers affixed, the Shell pump really seems to capture the atmosphere of the period well and I chose to paint the second pump with no identifying fuel manufacturer logo attached as I recall seeing many such examples on forecourts during the 'fifties similarly decorated. As before, the transfer instruction sheet has a photograph of a genuine pump for guidance. Weathering to suggest worn edges where the pipe has rubbed the body over the years, plus a little further abuse, offers added character to these delightful kits.

The third kit supplied contains garage accessories including an oil dispenser, oil bottle rack, three tyre racks, a Redex

dispenser, six batteries, an advertising garage clock, broom, six tyres, plus an open and closed oil drum. All cast in whitemetal, they can be painted as per the instructions, and transfers are supplied for attaching the various tyre, battery and oil emblems where appropriate. Another good-value kit which provides that extra touch of authenticity to any garage or engineering scene.

The last kit in the box was for a pair of pumps of the 1950-1960 period which are a little more complex in construction, being so in reality. Assembly is much as previously described with exploded diagrams, descriptions of colour schemes, location of supplied transfers, etc., easily followed. My only criticism is perhaps that, despite all of the information, there are still areas which could benefit from some further prototype information. The transfer sheet contains assorted colour variations of Shell and I have no idea which applies to what grade of fuel. There are transfers for Kerosene, Paraffin, Diesel, Derv, Super, Premium, Standard and Regular, but, alas, I don't know which of these was around in the 'fifties – and when did diesel become Derv – or indeed are they totally different products?

In the right foreground are the mid-period pumps whilst to the left is one of the later 1950-1960 items. To the rear are the early Bowser units rusting away amongst the foliage.

I have placed this pump to the rear of the garage in this photo to suggest its private use by the proprietor.

Similarly, the Shell logos are offered in different styles, and again I haven't a clue when one superseded the other; a brief date sequence offering guidance for some of these could be usefully included in the kits. Perhaps this could be covered in future instruction amendments.

This aside, all of the kits are certainly of the highest quality and ones I have no hesitation in recommending to bring that added dimension to any diorama or layout. Even if you have no room for a garage scene, many of these pumps could be found in isolation outside small industrial premises, in a station yard outside the coal office selling paraffin, or even by the local hardware corner shop. I look forward to further offerings from the same manufacturer.

All Classic Commercials garage accessory kits come with whitemetal and brass parts, transfers (including for alternative brands), instructions and photo references. Pumps are sold in pairs – Bowser, mid-period or 'modern', state which – price £12.95 per pair, plus £1 post. Garage accessories comprising oil dispenser chest, oil bottle rack, tyre racks, tyres, Redex dispenser, batteries, KLG wall clock, broom, open and closed oil drums, plus transfers for detailing most parts – price £10.95 plus £1 post. Available only from Classic Commercials at PO Box 800, West Wratting, Cambridge, CB1 5LU.

A Quartering Device

Danish reader JORGEN STURUP has found his own way to accurate quartering:

In MRJ No. 82, Dave Bradwell is the latest to bewail the 'state-of-the-art' method of quartering driving wheels by using the coupling rods and crankpins as gauges and twisting the wheels on the axles until the chassis runs reasonably trouble-free – but no more than 'reasonably' because the quartering process is inexact due to the necessary tolerances (a much nicer word than 'slop') caused by our hand-tool methods, and because the points of reference are the crankpins, which sit only about 4mm from the centres of the wheels.

Of course, the quartering should ideally be exactly 90 degrees on all pairs of wheels, but it is unimportant if there is a small deviation from this. What really matters is that all pairs are quartered at exactly the same angle. To reach this desirable end, I use a special gauge which works on the wheels at the place where any irregularities are made as small as possible – the rims.

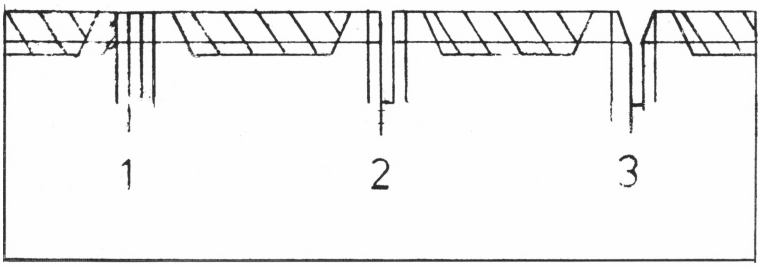
The gauge is shown in the drawing and the photos. The drawing shows only the principle and is to no particular scale, so I have not given any dimensions, but I find that the width should not be less than 50mm for convenience in handling, and the length a little more than the distance between the outer rims of your outer wheels. The material is 0.4mm brass.

Start by marking off your axle spacings along the long edge. Make a sawcut at each mark with a fine hacksaw blade. Next, file the tops of the cuts to a V-shape with a small Swiss knife file, so as to fit tightly over your spokes. Take care that all the vees are identical in shape and depth – accuracy here is essential, so when marking off, scribe a line parallel to the edge to mark the bottom of the vees, and lines square to the edge to mark their width at the top. In practice, I find 2mm a satisfactory depth. Finally remove sufficient material between the vees to clear the rims of your wheels.

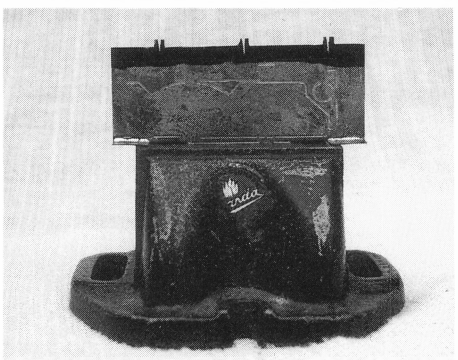
To use the gauge, put wheels on your chassis and quarter the wheels as accurately as possible by eye. Put the gauge in the vice with the vees at the top and put your chassis on top of the gauge with identical spokes of the wheels held firmly in the vees as near the rims of the wheels as possible. Now check that the upper wheels are identically quartered. This is most easily done by seeing if identical spokes are all on a straight line. If necessary, move the chassis a bit back or forth in the gauge. Correct the quartering as necessary.

A later addition which is not shown on the drawing, but which can be seen in the photos, was to put flaps at 90 degrees to the bottom ends of the gauge. It came about when I tried to quarter an eight-coupled fully-sprung chassis which was designed to float on the springs by the above method. Because of the 'looseness' of the chassis, this demanded far more hands than I was able to mobilize! Instead I put the chassis on a piece of track, put the gauge on the far side with the vees resting on the rims and the bottom of the gauge resting on the flaps. I was then able to press the chassis down until the bearings were firmly in their top position.

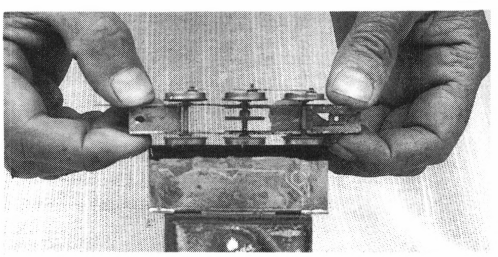
Of course, it's extra work to make the gauge, but the fifteen minutes or so are well spent considering how useful it is. Besides, you have the gauge to hand if a wheel should later go out-of-true (which sometimes happens, at least to me).



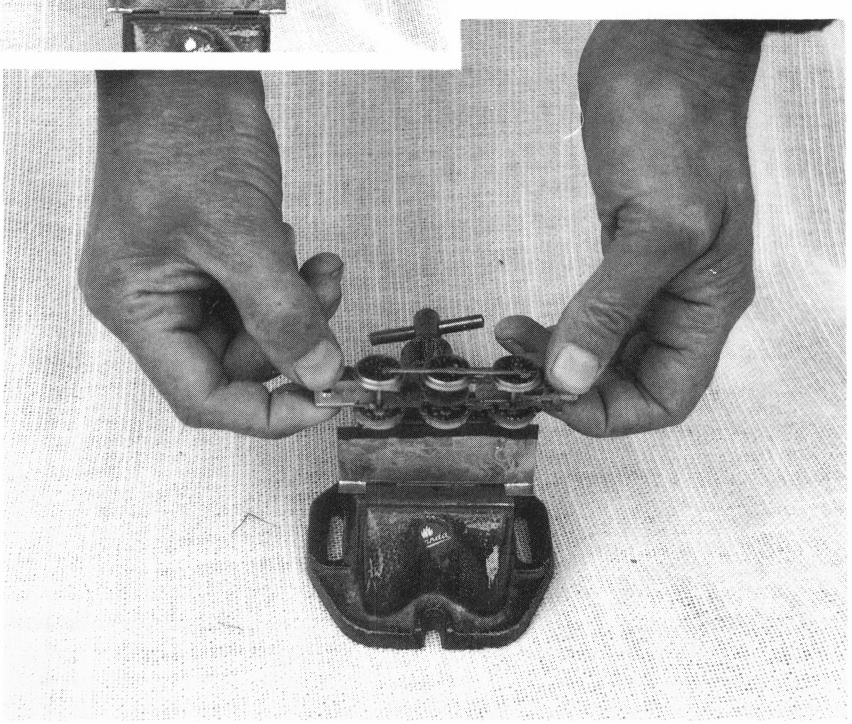
1. Marking off.
2. Sawcut.
3. File out V's.
4. Remove shaded areas.



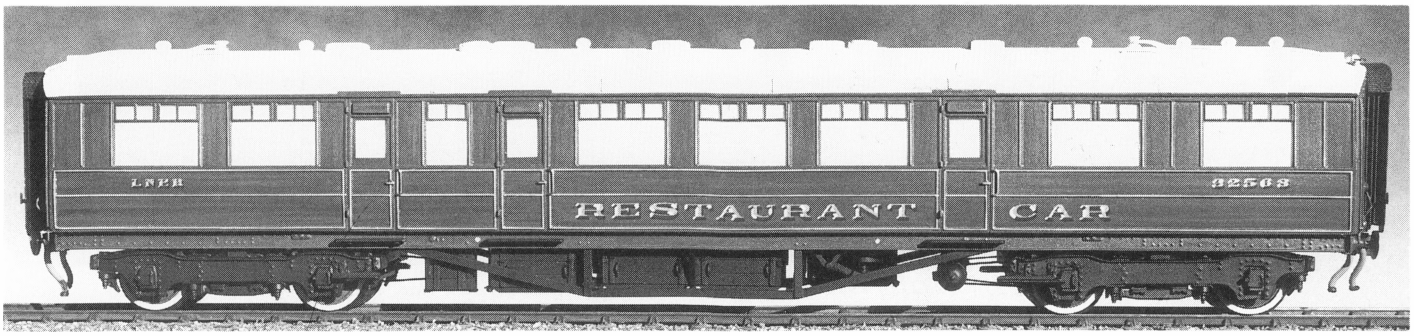
The gauge in position in the vice.



A 2–6–0 chassis in position on the gauge.



GRESLEY KITCHEN CARS



D293 complete from the corridor side.

Grand restaurant and kitchen cars were an essential element of the golden age of railway travel, a far cry from the polystyrene cup of today. Gresley built them big and imposing, and STEVE BANKS captured their style in these 4mm models, built using MJT components:

Gresley coaches were handsome, that's for sure. However, they are among the hardest to model realistically, and most kits produced to date have taken liberties in one area or another, some of them quite glaringly. There has also been a tendency to concentrate on relatively late designs equivalent to late Period III on the LMS. MJT's approach is rather different and the first kit, a Gresley 51ft 1½in non-corridor coach, broke new ground for accuracy and helpful techniques. For gangwayed coaches, parts and packs are being released rather than complete kits – a shrewd move, because while the LNER house style in coaches was the most consistent of all of the Big Four companies, there were significant variations over the years and among the types. MJT makes it possible to model stock of the whole LNER period from the 1920s into BR(E) days, something which hasn't been possible before.

The range concentrates on the most numerous designs built by the LNER, which were the side-door types on the turnbuckle underframe, further batches receiving steel angle trussing. End-door types, also called end-vestibule, were introduced later, but construction of side-door coaches continued. In fact, relatively few end-vestibule coaches were built and few trains received more than the odd one or two.

On the catering side the most common arrangement is covered, the pairing of restaurant 1st and open 3rd dining car. The kitchen car stands apart from all this, being a late and relatively rare type, but few coaches are as good-looking or as interesting. It's a worthy addition to the range and I was smitten. There were two versions and these notes describe how I built both using MJT parts, plus some modifications and scratchbuilt parts for the details. Both were carried on the steel angle underframe, but having already built several MJT coaches on the turnbuckle underframe, the basic elements of construction are the same. In fact most of the standard types were built on both types of underframe, the exceptions being the catering coaches where development was pretty well continuous – the RF and RTO in question had turnbuckle trussing while the RK had steel angle.

Gresley built some independent kitchen cars for the GNR just before World War I, but thereafter his policy was to put the kitchen inside a restaurant car, or sandwiched between dining cars in restaurant triplet sets (there was also a fully articulated Leeds quintuple train). Independent kitchen cars weren't built again until the early 1930s when some pre-Group restaurant cars were gutted and rebuilt as kitchen cars. There was a rising need with guaranteed excursions. The first purpose-built kitchen cars were constructed in 1937 to D226. Three were built and cooking was by gas. A fourth was added in 1939 to D293, this one with anthracite-electric cooking. Both types had a pantry with a cold larder or fridge, hence the slatted panel at one end of the body.

When Thompson took over, he abandoned the articulated concept and more independent kitchen cars were built for the East Coast Main Line. During the transition period – the late 1940s and early '50s – Gresleys occasionally stood in for them.

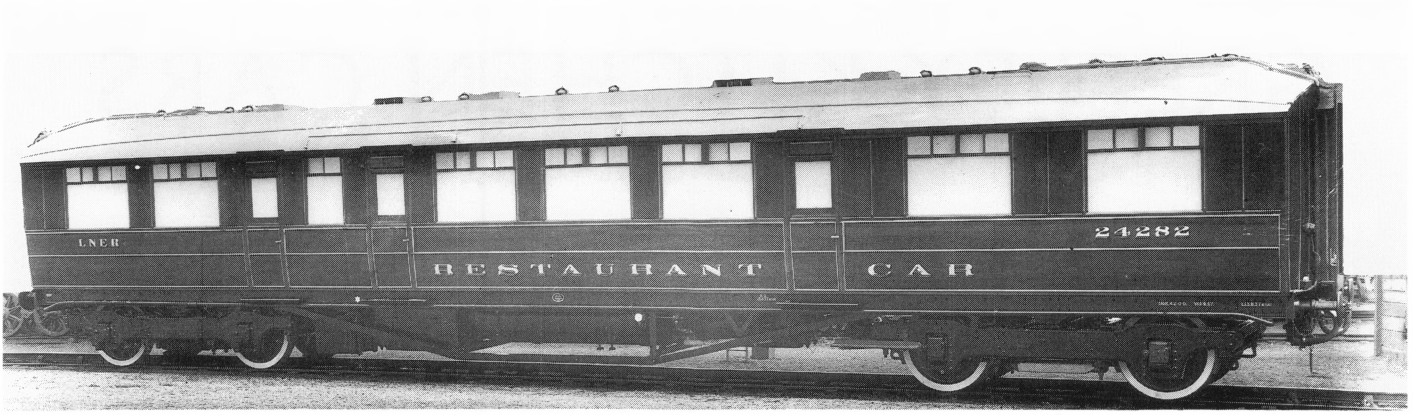
CONSTRUCTION

The main parts, MJT floor pan, sides, ends and roof, come with good assembly instructions that I have tried not to duplicate here. These notes concentrate on practical hints and the results of further research on the roof and underframe. I like to work close to the prototype and added details that were the hallmark of these kitchen cars.

I used a Weller 40w iron and 188°C solder for most of the soldering (plus some 145°) and a small iron set for 70°C lowmelt. I have a resistance soldering unit but find that a conventional iron is better for most of a kit like this. Flux was Stevenson Carriages 9% phosphoric acid. Etched brass coaches don't need much solder, they just want it in the right place, cleanly. Pre-tinning both parts helps. Coaches have long flat surfaces and tidy soldering is the name of the game. A peg with the ends cut square also came in handy.

The sides: I prepared the sides by pre-tinning everything to be soldered. The tumblehome was formed over a broom handle. The short panels only needed to be pressed down, but for the long ones I ran two fingers down each side of the panel with some fine, worn emery in between to protect my skin. All this was straightforward – indeed it is easy to overdo the tumblehome, remember that these carriages had a gentle and even tumblehome from just below the waist to the bottom, quite unlike the LMS version which was lower down and more pronounced.

To fit the panels, each was held at the bottom edge with a clothes peg, tacked



D226 (24282) of 1937 with gas cooking, seen from the corridor side.

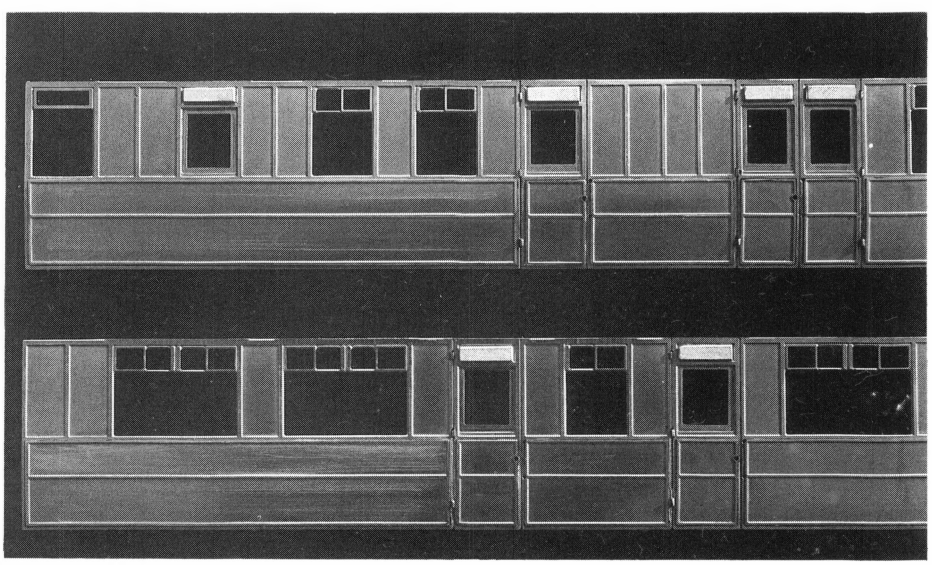
D293 (32568) of 1939 with anthracite-electric cooking, seen from the kitchen side. The end windows on the left belong to the toilet and staff compartment; the cold larder with louvred panel is at the other end.

lightly at the top, then turned over. Soldering proper began at the top edge, starting with a small spot in the middle, then working outwards on each side, alternately, soldering half an inch or so at a time and allowing each step to cool under some flux. You can't rush this or the panel will bow. The bottom edge was done the same way, leaving the sides till last. Should a panel go wonky, don't try to mend it in situ – it can't be done cleanly. Heat the panel with the iron until it drops out, clean it up and start again. The lovely self-locating droplights and hinges were fitted next.

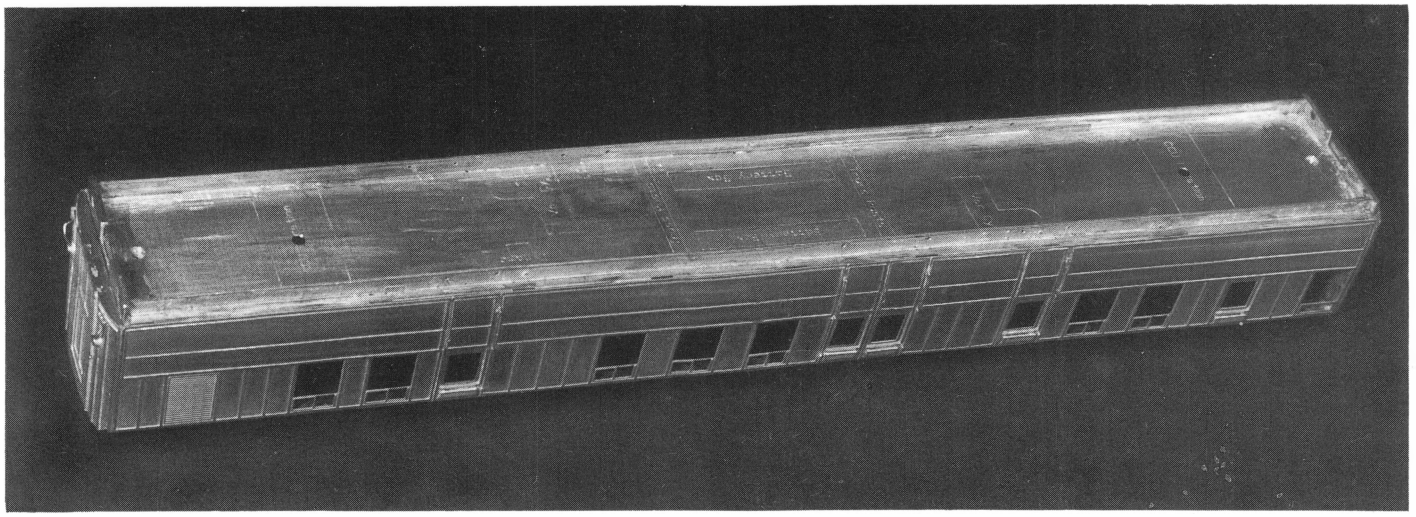
Now the top tabs could be folded, but first I opened up the half-etched fold lines because they are a bit too narrow. The tip of a round file did the trick, trying not to touch the base of the half-etched line too much or the fold will wander off-centre or fracture. When ready, the tab was gripped in a vice and the side pushed over.

The top tab is a key feature of the MJT concept. When glazed, it strengthens the side and forms a ledge on which the roof (with its overlapping cornice) will rest. It is important to get it level at this stage. If you look closely you'll see that the side is etched slightly higher over the windows. This is deliberate and the slight excess needs to be filed/sanded level, checking with a steel rule to ensure that the whole side comes out straight. Any bow should be teased out, too. I checked it with a steel rule (and the roof) until a good marriage was achieved.

The bottom edge of the sides is meant to be soldered to the floor pan later and it only needed to be reasonably straight. Freedom from twist was the most impor-



A pair of sides complete, showing the exquisitely etched detail and fittings. Door cracks are full height and the hinges protrude correctly.



The main body complete with solebars and headstocks.

tant thing, the usual requirement for any model.

Vents over the doors were next – lowmelt solder will do if you are nimble, but epoxy is easier.

Floor pan and ends: All places where joints were to be made or fittings added were pre-tinned first. This makes life easier, reduces stresses that might distort the body if it's overheated later and, in the same context, allows the use of 70°C solder to attach underframe fittings. The pan itself required a couple of modifications that reflect MJT's development. The basic concept for the body is a brass shell to which detailed ends are added. With the 51ft 1½in non-corridor coach, the ends are etched and fit in a slight rebate. The 61ft 6in stock is designed the same way but with end castings. In fact there have been several types of casting, which we'll cover in a moment.

The first task with the floor pan concerns the width of the fold-up ends. If you aren't going to do any painting until the model is complete, then you can press on. I prefer to paint the body and roof separately and find that several layers of primer and paint make the fit too tight. Hence I reprofiled the ends slightly by filing about 0.5mm from each edge to make the body narrower under the roof.

The next step depends on the end castings to hand (the end castings proper not being fitted until later): (a) Early castings had a narrow rebate that was designed to locate in the etched body rebate. It was hard to cast cleanly and needed careful fettling. (b) The next version had a flush back. The fitting was more generous (and it was a good substitute for Kirk coaches). However, to make these castings fit the body, the etched rebate has to be filled. I did it by soldering scrap brass outside the etched end. It doesn't have to be perfect because the casting will cover it. (c) The latest version has restored the cast rebates but with wider clearances. These go straight onto the etched body.

Folding the pan began with the long floor tabs, then the ends, after which the sides were soldered on. To do this, I departed from the instructions by tacking all four top corners first. This enabled me to get the body square and adjust as necessary. When all was true, I attached the sides to the ends, checking all the time, then the sides to the base of the floor pan with tack joints where there was a vertical door rib. A continuous seam wasn't necessary. The soldered panels produce a strong side. Some of the longer panels, especially ones that weren't quite straight, I also tacked to the pan. These had to be done quickly or the panel might come adrift and was achieved by using a clean, loaded iron and loads of flux – 145°C solder is a useful precaution.

Turning to the underneath, the backer should be soldered to the pan at this stage, the etched overlay being painted separately and stuck on near the end with glue. It's a cunning idea but short steps have to be added, so I did it a different way. I soldered the overlay to the backer, drilled 0.5mm holes where steps wouuld go, then fitted the solebar to the floorpan. The steps were made out of brass strip (3.0 x 0.5mm) on wire supports (0.5mm).

The headstocks slotted in between the solebars, after which I cut slots for buckeye couplings (Kadee No. 5). A mounting hole was drilled and an 8BA nut soldered inside the coach.

With the main body assembled, the cast ends could now be added. I pre-tinned with 70°C lowmelt, clipped each in place with a peg and sweated it on from inside the coach body with the standard 40w iron – quite simple as long as you don't linger (and remember to give the large mass time to cool before removing the peg!). I had done some basic trimming of the cast ends before fitting because the type (b) ends are slightly oversize. Final fettling was done after fitting.

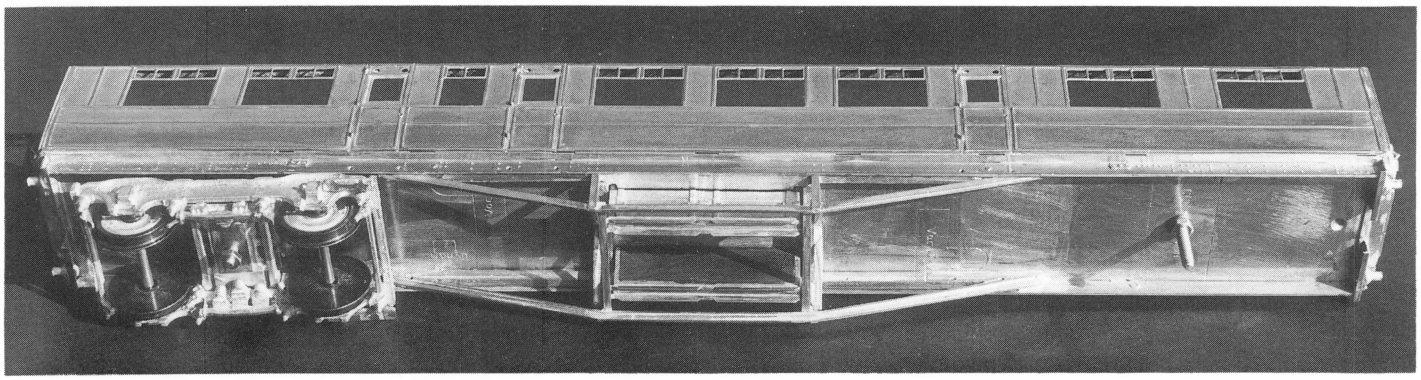
For buffers I souped up the MJT castings by drilling them out and fitting sprung 18in heads. They had to be short because the buffers were recessed when the buckeye was in use (the buffers were extended when the buckeye was dropped to reveal a concealed hook, over which the opposing vehicle's screw link was placed). The simplest solution is to use the castings as supplied in the recessed position.

UNDERFRAME

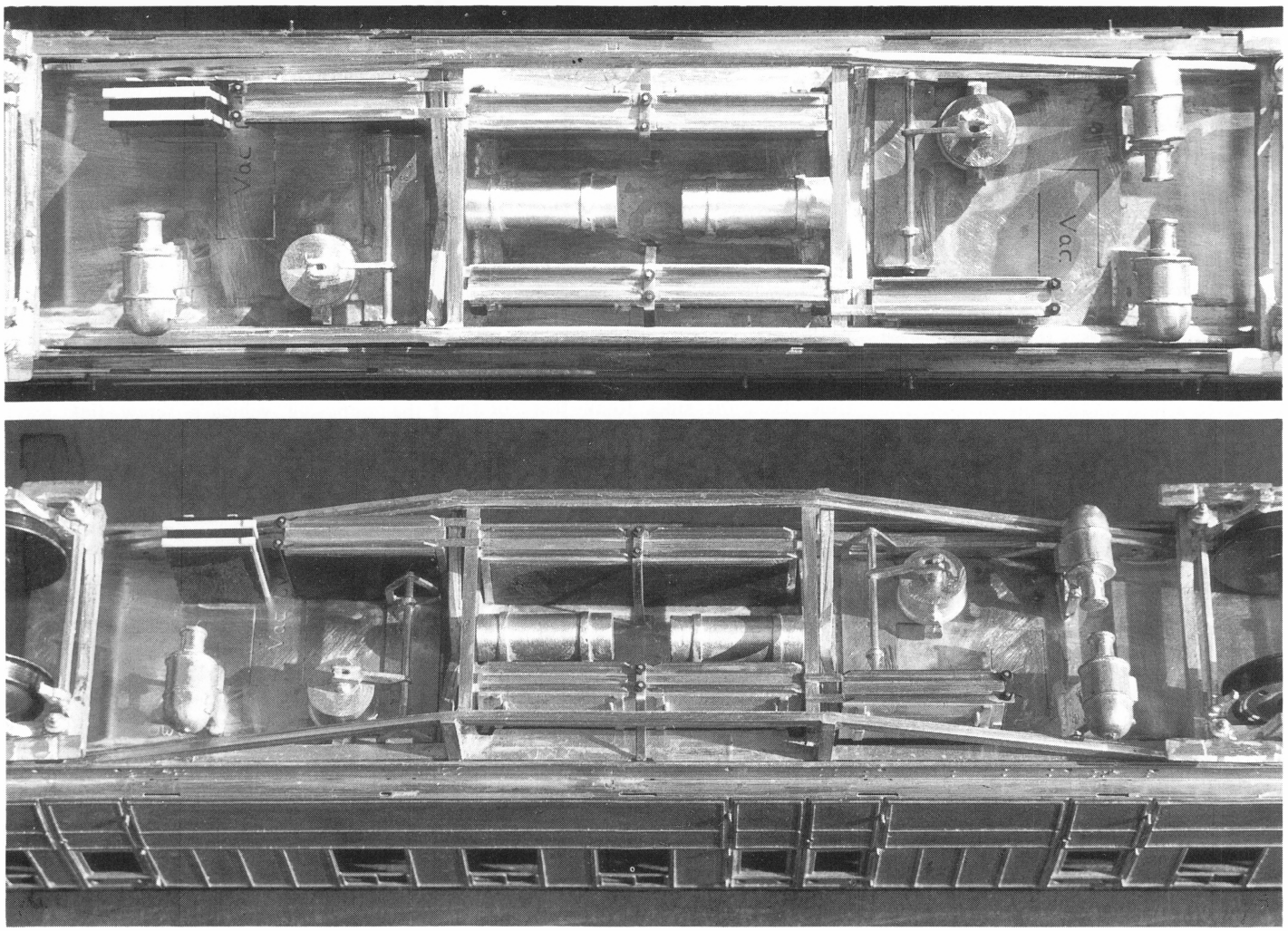
Everybody seems to make Gresley bogies these days and the best heavy ones are from MJT and ABS, the choice is yours. The latter are more detailed and take correspondingly longer to assemble. I mounted them via 8BA bolts soldered through the floor. Bogie steps are also available from MJT and ABS – I fettled the latter. Steel angle trussing is a standard MJT set of castings which I thinned to nearer scale size. So much for the standard bits! Not a lot of the rest could be so described, though much of it was actually pretty standard for a Gresley catering coach.

Battery boxes: For the anthracite-electric car, the central battery boxes were standard. I improved them by filling the back with brass sheet, added the carrying shelves using 1 x 1mm brass 'L' section which rested on the transverse trussing as per prototype, and some of the securing nuts and bolts.

Half-size battery boxes were made by cutting the MJT casting in half, making good with Plastikard, then adding the



The trussing has been fitted and central battery boxes for D293, the anthracite-electric car. Bolts are in place for the bogies, later converted to 18.83mm.



Two views of the fittings beneath D293. Note the shelves and straps under the battery boxes and the securing nuts and bolts.

shelves. The inward end of the shelf was attached to the transverse trussing. At the outer end, which was suspended, I made hangers out of brass wire with small nuts. An even smaller box, the purpose of which I have yet to establish, was made from Plastikard with scribed planking and details like a battery box, a pretty straightforward task. I attached it to the floor with Evo-Stik (being a belt and braces man, alias "I don't want things falling off my models", I also fitted it with brass pins which were soldered through the floor).

Vacuum brake sets: These were reverse handed, as it were. I began by turning the etching over and folding it against the half-etched lines. The rod with the two levers can't be used, so I cut the levers off, replaced the rod with 1mm brass wire (0.8mm will do), then drilled the levers and threaded them on. The unit was soldered up with 188 and 70°C solder. The last detail was brake rodding to the bogies which I added to the gas car. It's a good businesslike fitting, though it can only be seen from a low viewing angle.

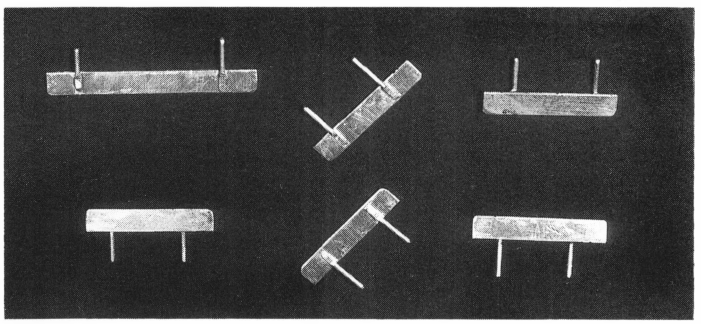
Many people think that the brake reservoirs were omitted on catering

coaches, but it transpired that on the anthracite-electric car, they were placed on the centre line between the main battery boxes, almost completely out of sight to the naked eye. The gas car had them in the normal position but also moved to the centre line.

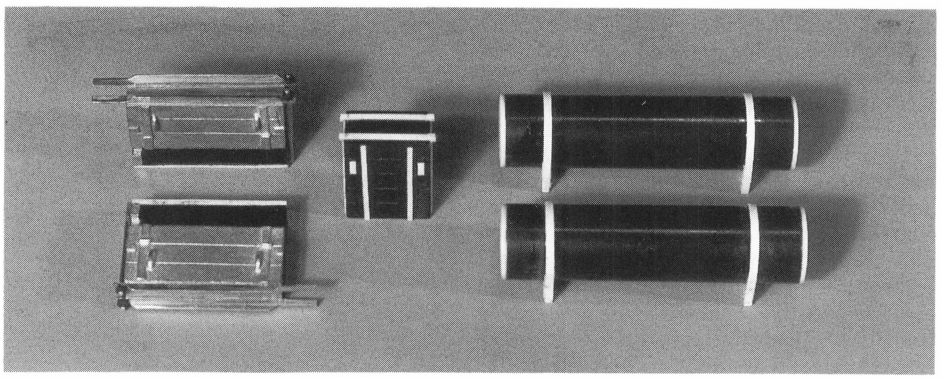
Gas cylinders: These were 8ft x 2in (32 x 8mm) which I made out of Plastikard and plastic tube by raiding the kids' room when they were asleep and cannibalising some felt-tip pens. Note how they are offset.

Other details: The gas car had one dynamo. The anthracite-electric car had three and they were heavier than standard. A similar type is available as a 'modern' dynamo from MJT and ABS. Drive belts were made from brass strip.

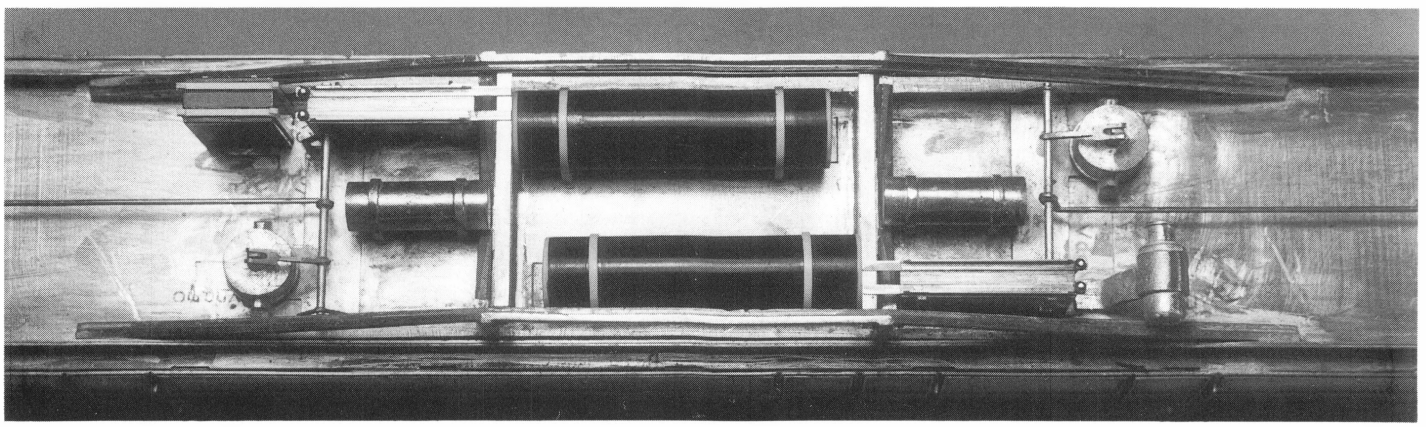
The LNER Diagram shows that the gas car carried a compressor for the refrigerator and though a partial silhouette can be seen on the official photograph to the right of the gas tank on the corridor side, much scrutiny failed to resolve it and I was forced to miss it out.



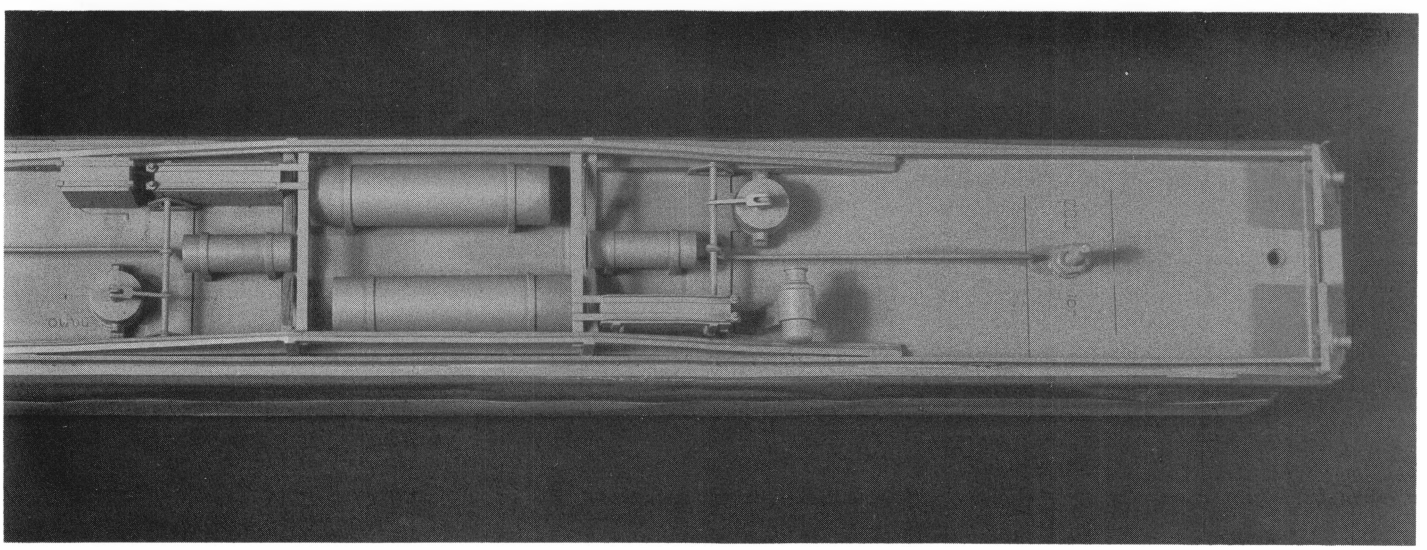
Solebar steps.



Underframe fittings for D226, the gas car (see text).



Close-up of D226 underframe before painting.

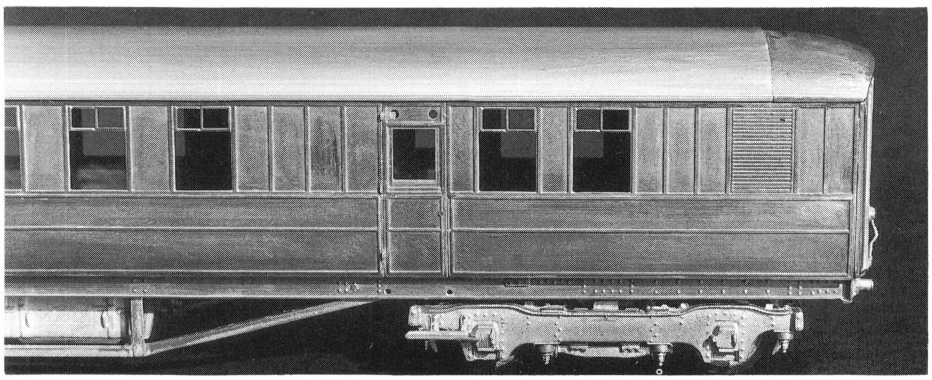


D226 underframe in grey primer. Brake linkages extend to the bogies.

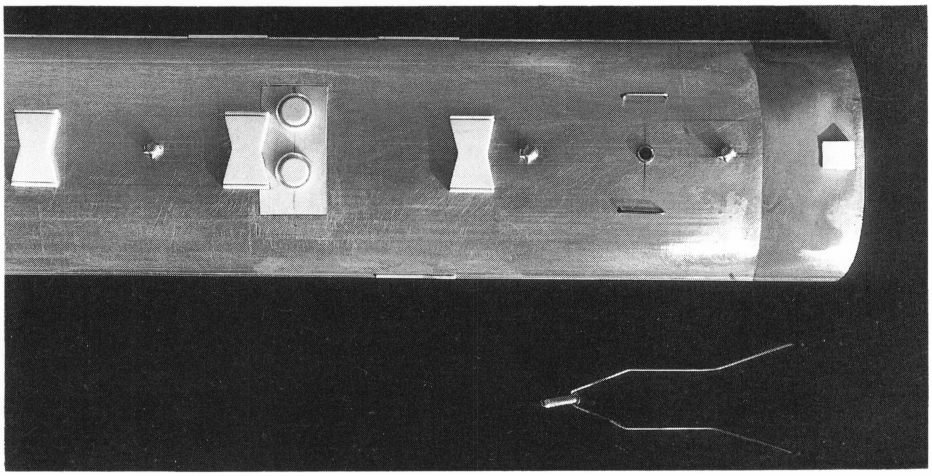
ROOF

The MJT roof comes as an aluminium extrusion with the correct elliptical profile plus domed end castings. They are meant to be joined with epoxy and smoothed off with Milliput. This isn't quick but the result is superb. No other 4mm scale roof is as good and it has a bigger effect on the appearance of the model than any other single component.

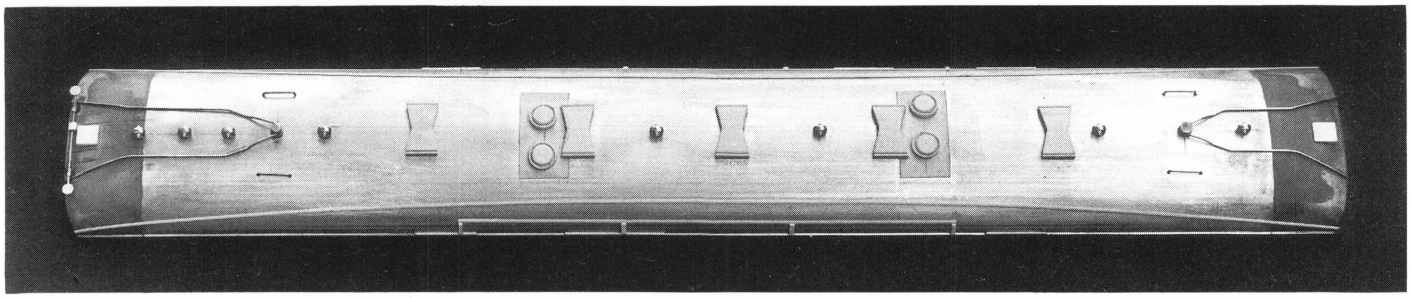
Before starting, there is an identifying pip which the extrusion people placed along the inside of one of the ledges. It presents a small ridge which gets in the way and should be filed or carved off. Assembly proper started at one end. The castings are chunky and vary, so the first step was to check the fit against a steel rule and file off any skew from the casting or extrusion until it was square. I also pressed down on the casting and widened it until it was the same width as the roof, or a teeny bit wider. This is important for the obvious reason that it's easier to remove excess metal than try to add it. The end was glued on with epoxy. The other end was cut to suit the body and made up the same way. Mismatch between castings and extrusion was rough filed first, then filled with Milliput and the joints scraped and filed smooth, finishing with emery and water. Some ends married fairly well, others needed quite a lot of careful fettling, both below and on top of the casting. Indeed, when the steps and train alarm gear mountings



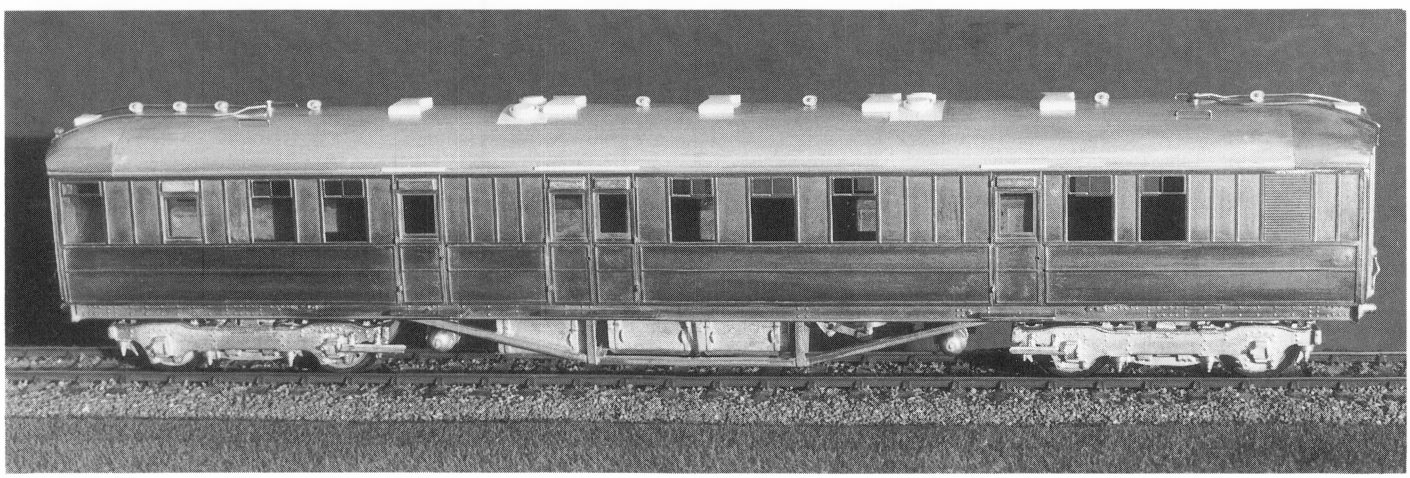
View of the cold larder end, showing holes in the solebar for the steps. A roof end casting has been attached with epoxy and the general fit is being checked.



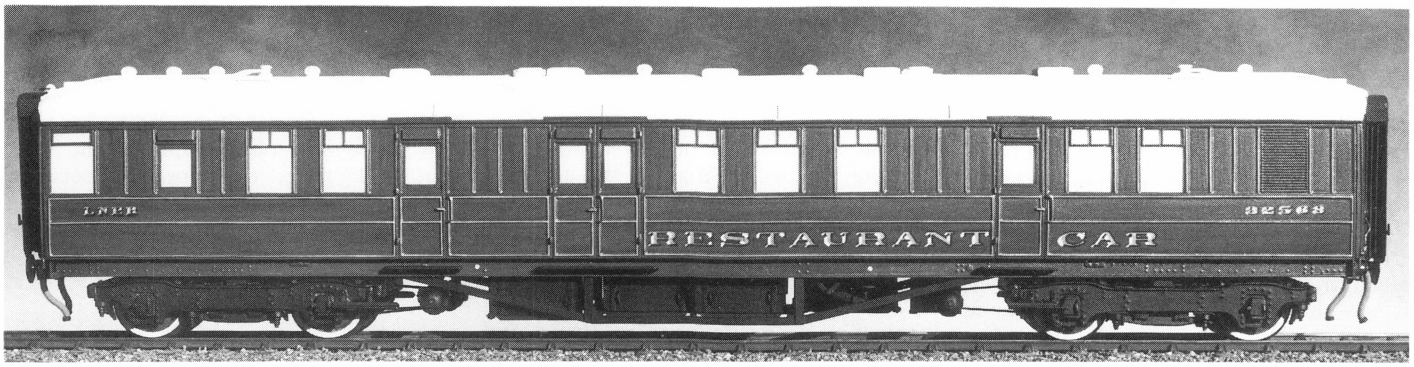
D293 roof, showing a cleaned-up roof end and main fittings (see text).



D293 roof complete.



D293 coach almost ready for the paintshop.



D293, the anthracite-electric car, complete from the kitchen side.

got in the way, I knocked them off and replaced them later using Plastikard and wire.

With roof and end fittings lay the second challenge on these kitchen cars, because few of the specialist fittings are available and most had to be scratchbuilt.

Water filler pipes: On these cars, water filler pipes weren't concealed and ran off the roof and down the ends. I started with the filler mounting which I scratch-built using brass rod and tube. The pipes were made out of 0.5mm brass wire. Folding them to the correct shape was a real three-dimensional puzzle that called for patience and perseverance. I fitted some split pins on the roof of one car to help anchor the pipes, but didn't find this necessary with the other – it depends on how well you can form the shape. Where the pipes went over the end, I cut them short.

The pipes rising up the ends were formed as an L-shape with a split pin in the middle to give a secure mounting, the top end being flared out slightly to marry with the roof overhang and thus touch the pipes that came off the roof (see photograph). The small gap can't be seen from most angles. At the bottom, the pipes were bent through 90 degrees and tapered slightly to simulate the filling points.

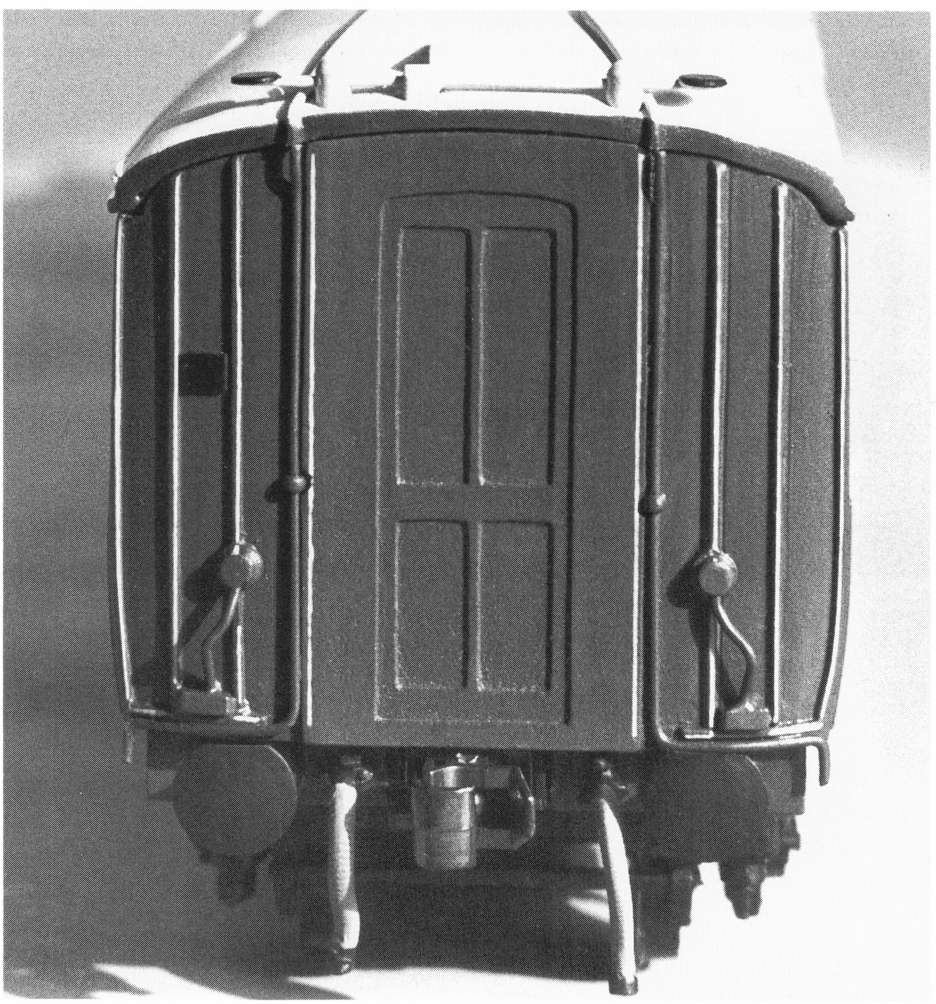
Vents: The two cars had completely different arrangements, which proved hard to resolve because the LNER whited out the background on the negatives by hand. The result is confusing to analyse and full of pitfalls. As far as can be ascertained, the situation was as follows: The gas car had five vents, 18in x 24in, which scales down to 6 x 8mm. I made them .060in thick by layering sections of .030in Plastikard roof. All other vents were the normal torpedo.

The anthracite-electric car had two pairs of circular vents over the ovens, and castings of the correct type and size proved impossible to locate, so I made them out of Plastikard. A disc was cut first, then a baffle added around it using Microstrip. The steel baseplate was glued on the roof first, using .005in Plastikard. The main vents on this car were a 'double-triangle' shape with dimensions of 18.75in x 30in, plus baffles set 2in out. I cut them from the same material as for the gas car. Note that the vents near the circular fans overlapped the base plate.

Details and fixing: The rain strip can be made out of self-adhesive strip or .010in x .020in Microstrip if you are good with Evo-Stik. Gutters over the doors also employed Microstrip. I attached the roof to the body with Evo-Stik though Blu-Tak can be used. To help support the sides, I soldered the odd strip of brass across the top tabs.

FINISHING

Having dealt with all that roof and under-frame detail, it was nice not to have to fit an interior, and the photographs should speak for themselves as regards livery. Transfers were HMRS Methfix, some



End view of D293, showing the pipe runs and end details.

compression of the words 'Restaurant Car' being needed on the LNER coach because the letters are oversize. On the BR (E) livery, care was needed to make sure that the lining was not too low or the words 'Kitchen Car' wouldn't fit. A smaller 'Kitchen' legend was placed on the doors.

For glazing, I used 0.5mm Cobex sheet from John Flack. Droplight glazing was glued on directly. For the main windows, it was slid in with the top edge trapped by the top tab. Glue was only needed at the bottom. This is a useful part of the MJT concept and helps ensure that the glazing won't fall off. The inside was then painted white.

Working gangways are available from various sources – I improved MJT's by making the bellows tighter and adding a cloth cover. For grab handles you can use the MJT etched ones supplied. I prefer to fold them up out of 0.4mm brass wire. it's more fiddly but worth the effort.

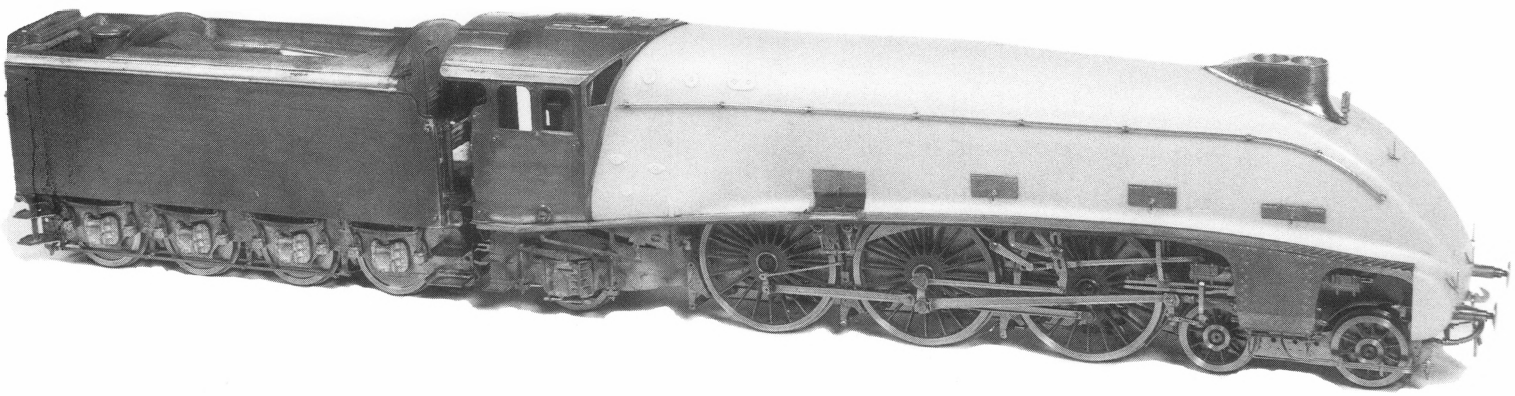
Of the two models the gas car had simpler roof and underframe fittings and was the easier one to build, although I think the anthracite-electric car is better looking. The results were extremely pleasing and it was striking to place the LNER liveried anthracite-electric car next to the works photograph when, with similar lighting, the closeness between model and prototype was uncanny, a testament to the basic rightness of the MJT parts.

General view of D226 with gas cooking, in BR(E) carmine and cream livery. The less congested underframe is evident, as are the fewer roof fittings.

A closer view of D226. As per the official photograph, there is no step on this bogie.

MALLARD

TIM WATSON concludes the building of his 7mm A4:



THE MILKY BAR KIT

It is amazing how stick-in-the-mud we modellers can be. A new technique or material comes along and the reaction is often: 'Well, it's not made of the right stuff, you know' or 'It's cheating. I would much prefer proper metal – much stronger, more weight for pulling things'. My feelings on the matter will become apparent.

A few model railway kits have successfully used polyurethane resin as a basis for boilers, saddle tanks, etc. However, the material is much more widely used by our colleagues in military modelling circles and fully accepted by them. When I saw the plastic casting it was immediately apparent that it was an entirely accurate representation of an A4 – I should know because my Lonestar hack involved a lot of studying of the real thing to get the shape correct. 'Ah', you say, 'but does it fit the metal bits?' Unequivocally, yes! The design and execution of the kit is so good that you can almost hear the air escaping from the cab front as it is offered up to the boiler. The amount of cleaning up is minimal and, if the instructions are followed, there is absolutely no problem joining the dissimilar materials. I cannot believe that there won't be enough room to put a slug of weight in the boiler to give sufficient traction. So if the thought of a plastic-bodied 7mm A4 puts you off, don't let it.

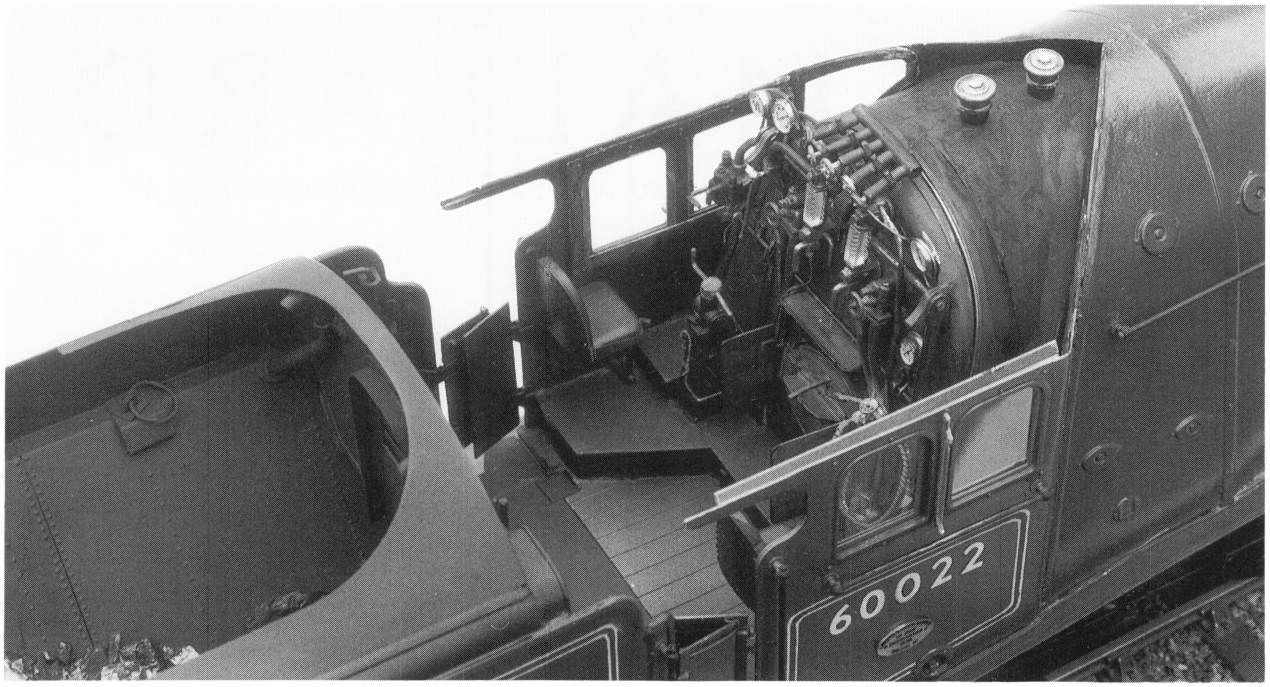
Metal bits: There are of course, a significant number of metal bits in the engine body. The running plate and the cab could obviously not be cast in resin. The cab folds up reasonably easily, but read the instructions – the corners should most definitely be scored deeply. I thought that the cab sides were a trifle thin for sufficient strength in this scale, and so I soldered on a layer of scrap material below window level to beef things up a bit. Similarly, the top edges of the cab are a bit too fragile, as the roof is a removable feature. These edges were made more rigid by soldering some nickel silver strip along them, on edge, as can be seen in the photographs.

The cab roof goes together very well. It is a good idea to polish the etched surface of the metal before assembly, so that if you start to put any wrinkles into the thin sheet it will show immediately. The instructions mention no techniques for rolling the roof. I read John Hayes' article for some guidance and started rolling the roof sheet with a steel rod over some rubber inner tube. Results were imperceptible and I think I would still be doing it today if I hadn't changed the rubber for a more compliant material (a fairly solid foam dish cloth) which rapidly helped generate a curved roof.

The cab backhead is a whitemetal fitting, as are other bits of the flooring and the reversing gear pedestal. Numerous brass castings make up the fittings. The water gauges are solid and so I filed out the bits where the glass should be and substituted solid perspex instead. The instructions include a useful drawing, but you really need to have some decent photos of the real thing to get a feel for the job. Control gear is required for the injectors, close by the driver's and fireman's seats. I made the firebox door in an open position and put in a bulb (just like Tri-ang!). The driver's brake controls need to line up with the ejector pipe along the side of the boiler, because otherwise any mismatch will be fairly obvious through the cab windows.

As I had elected for a tender and engine body of different polarity, it was necessary to replace the fall plate and cab doors with some insulating material. Copies were made of the brass etchings supplied, using very thin double-sided (0.020in) copper-clad Paxolin. The brass hinges were soldered onto the Paxolin and insulated from the doors by cutting through the copper around them.

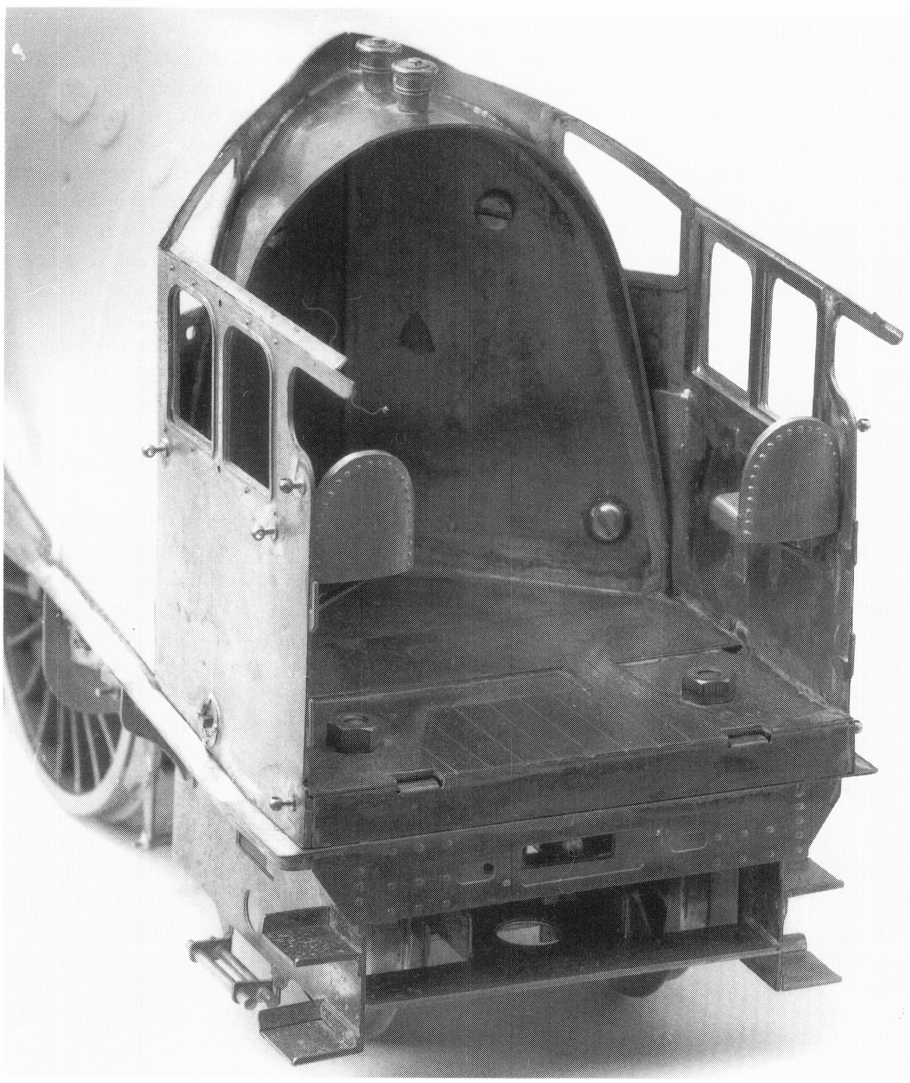
Fitting out: All the required components are provided as nickel-silver or brass castings and there is a choice of double or single chimney. My locomotive obviously required a larger respiratory capacity and



so the appropriate casting was fettled and made to fit the front end. Martin represents the fixings around the flare of the chimney base, but I sacrificed these, especially at the front, to ensure a really smooth transition from plastic to metal. Do not forget that the whistle is effectively rooted in the flare of the double chimney. Once this was Araldited into position, the plastic casting was drilled out for the orifices. I still can't make up my mind whether or not to put a double smoke unit in. If I do 'other things' to the model, then perhaps I will.

The handrail stanchions are brass turnings with a knob on the end. These are OK for the cab and tender, but I believe that those on the boiler need to be less conspicuous. This is achieved by filing them down so that the end is cylindrical in shape. It is advisable not to fix the front pair of stanchions initially so that the handrail can be removed and re-threaded after the engine is painted. I used pivot steel for the cab handrails because it is much tougher than nickel-silver.

Trimming and adjusting the body and chassis to fit one another was not difficult, because very little work was required. The body is solidly fixed by four 6BA screws. I found it easier to use cap head screws for these because the Allen key can be used to locate the screws deep inside the engine. The much less elegant alternative is to use Blu-tak in the slot of the screws provided. People

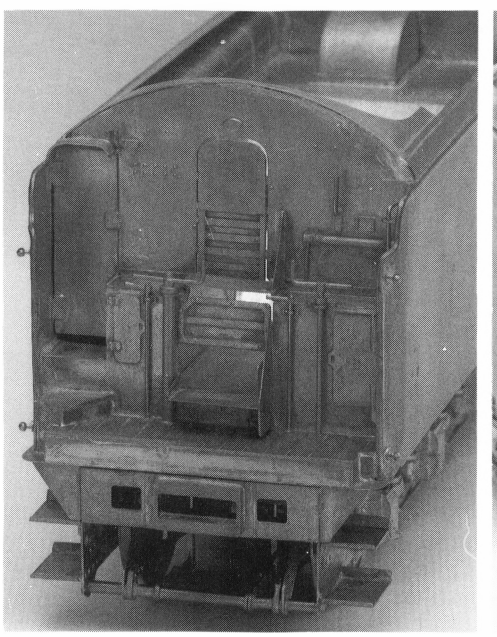


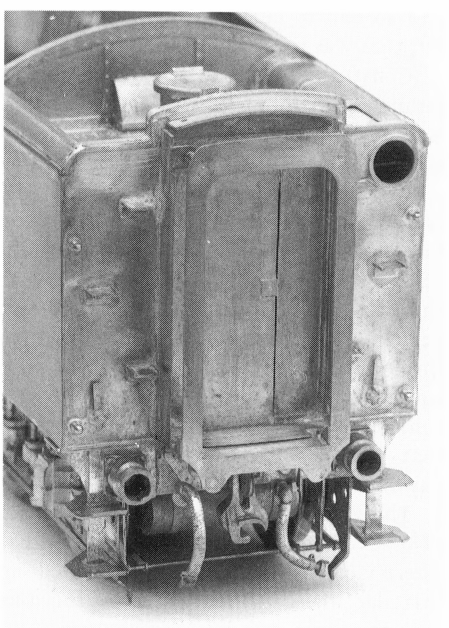
seeing me use the Allen key also think I'm winding up a clockwork engine – now there's a thought.

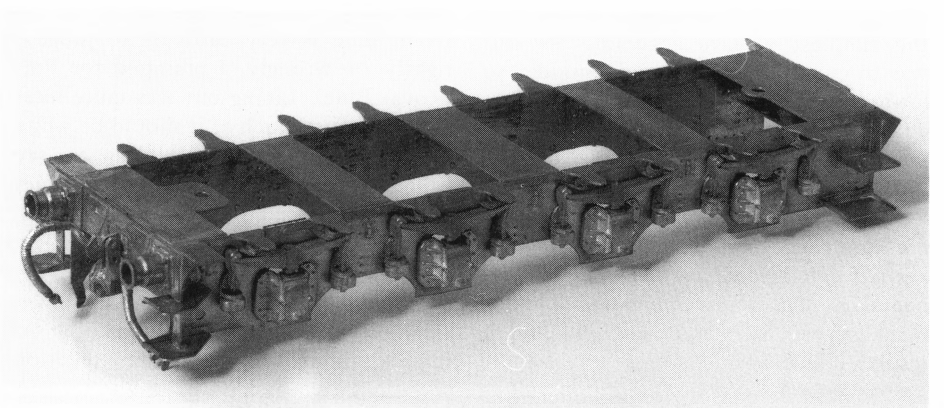
Tender

This consists of three pieces, the internal chassis, the external frames and the tank body. Needless to say, the fit of most of the components is 100% correct. The instructions make it quite clear how to assemble the required version for an A4. I found some of the photographs in Yeadon's Register particularly helpful for details of the tender front. My chosen loco was going to need the cut-down rear end which was a requirement of the locos involved in the Locomotive Exchanges. These roving engines had to travel to other companies which suffered from vertically-challenged water columns.

The tender body has the lion's share of rivets, and because I was embossing with a slightly blunt point at the Olympia show, ended up with distortion in some components (like the tender tank top). Rest assured, however, for that clever fellow Finney has designed these components to be laminated onto stout sub-assemblies, so that they get pulled flat again, without too much need of Uri Geller's touch. It is also useful to find that there are convenient holes in the structural layer to give good access for the solder. The coal hole and water tanks look quite masterly and it would be a terrible shame to cover them in coal.







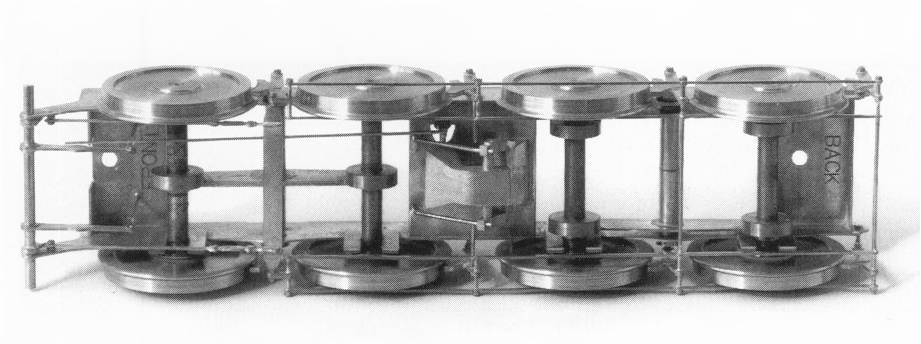
There are various curves which need to be formed into the tender body. The instructions are quite explicit about how this can be done with rods and fold-out bits, but I simply made a pair of bending clamps out of ¼in thick acetal sheet, with a radius of the correct size for the tender sides filed onto one of them. The soft brass was easy to persuade around the former. There is some half-round beading which required sweating along the tank top – about the only tricky thing to do in the whole assembly. Care taken at this stage will obviously pay dividends in the appearance stakes.

Running gear: I felt that the chassis was a bit under-engineered in the bearings department, so I turned up some phosphor-bronze bushes which were soldered to the compensation beams. The water scoop is fitted to the centre of the chassis and is quite an interesting little assembly. I could not get one of the cross-shafts into quite the correct place and so had to cut it through the middle, but that was probably my mistake.

Construction of the brake-gear follows familar principles to the locomotive. I wanted to make mine easy to remove and so it is held in place with 16BA studding and nuts. These were also soldered at the end of the cross ties, to make them look a bit more businesslike. Martin provides 8BA nuts to retain the sprung buffers at the back. However, the prototype doesn't need as much space as the model to spring its buffers and I did not manage to squeeze the nuts in. A piece of wire soldered across the buffer shank was all that was required to retain the spring, anyway.

The visible chassis has a wonderful set of brackets which support the water tank. There is also a riveted flanged strip along this edge. Martin admits in the instructions that this strip will become distorted and elongated during embossing. I found that the simplest way to accommodate this was to cut it and join it in the middle, so losing the extra length. Axlebox components consist of four separate whitemetal pieces; they go together very well and quite look the part.

Etched brass drawbar components that are laminated together are provided, but again I felt something a bit stiffer was necessary. The replacement was made of nickel-silver bar and has a plastic insulated bush at one end.

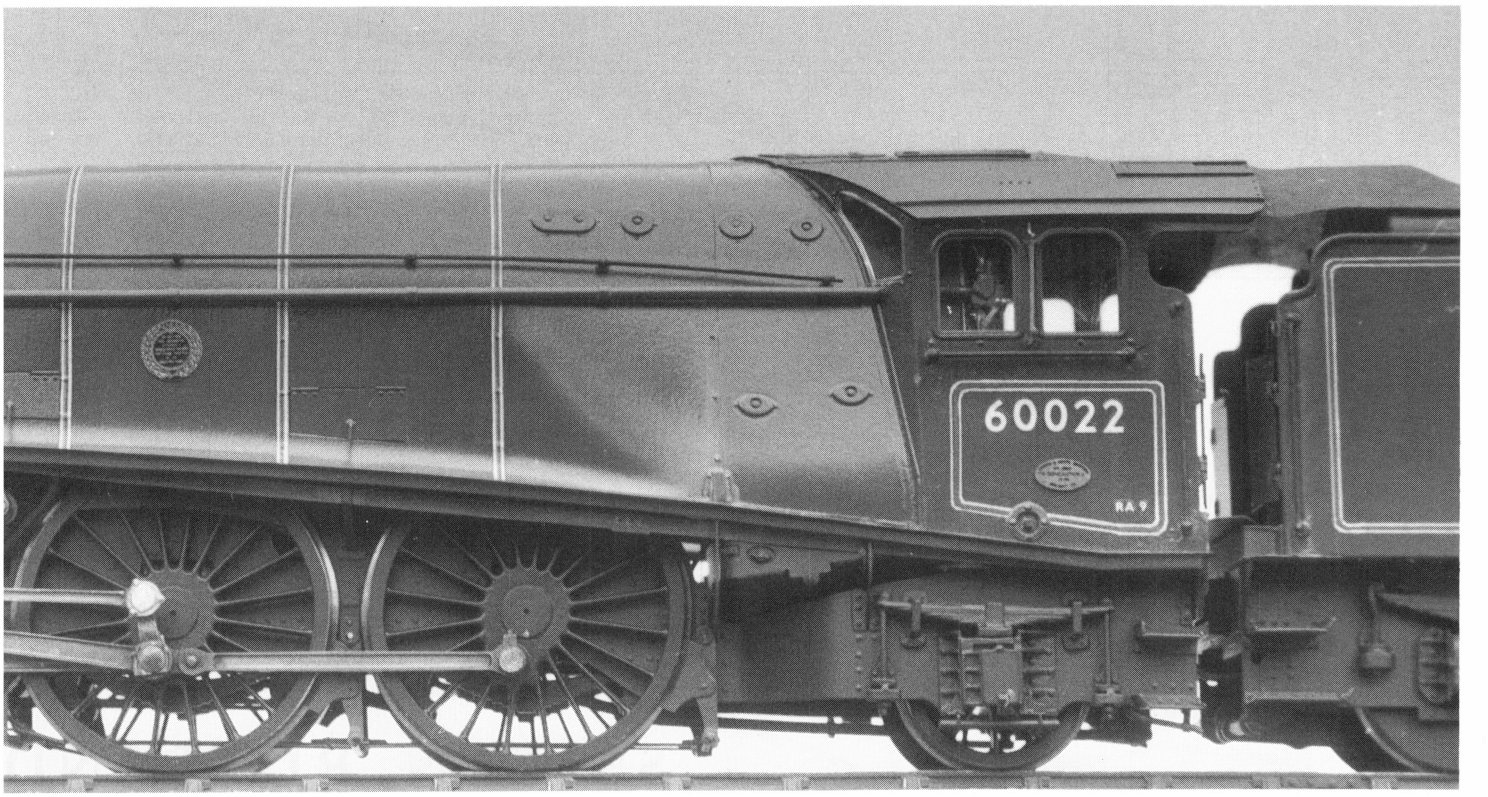


Painting

Cellulose is my preferred medium for painting models and many of the techniques employed are described in my article on the Baldwin 2–6–0 (MRJ No. 86) and Alan Brackenborough's superb text (MRJ No. 76). The colour of BR steam blue is very difficult to judge – rightly or wrongly, I plumped for Ford 'Royal Blue'. Lining out was quite interesting because much of it should be white-blue-black-blue-white. Needless to say, subdued colours were used for these lines, but they are still quite prominent, as they were in the real thing. I like my models to look as if they are in service, even though they may be clean. Therefore, I very rarely use pure black. The front of an A4 in good condition has to be the exception, however, because it doesn't look correct if its dirty!

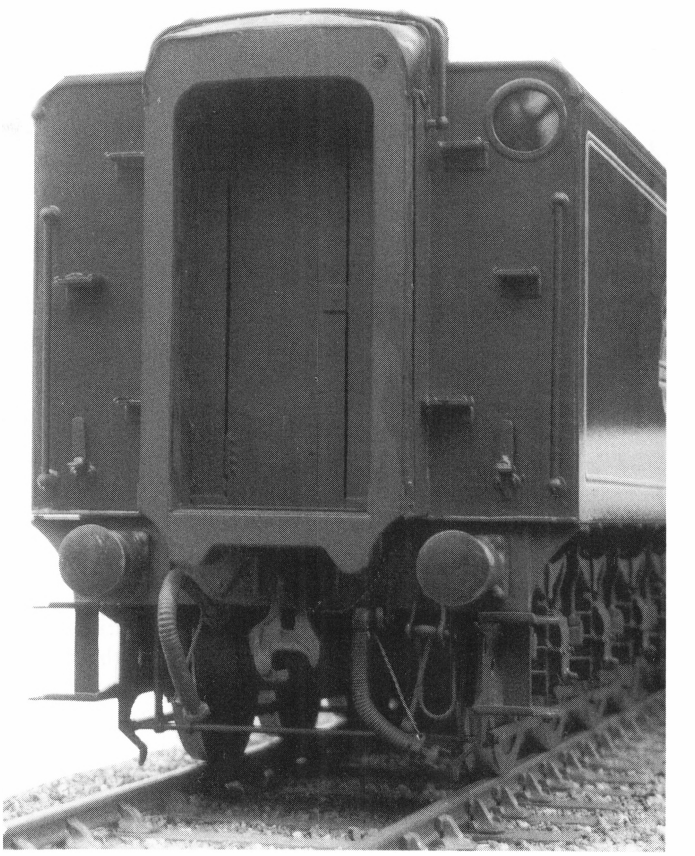
Conclusions

The construction of this model has taken just over a year of my modelling time. My diary of work says it took 272 hours, excepting painting. The alterations to the mechanical bits and pieces accounted for about 40 hours of this time. It took longer than I anticipated, but isn't that always the way? The last time I clocked the building of a model was for a Johnson Single in 2mm scale – it took 472 hours. I am not the world's fastest builder ('think twice, cut once') but I am well pleased with the resulting product, considering the time invested.



The quality of the kit is obviously exceptionally high. There are others in the marketplace but I don't think they are in the same league. The cost of the model is also not insignificant, but this investment pays dividends because you are not spending huge amounts of time to correct bad design or the incorrect choice of materials. Most of the modifications that I have described are due to quirks of the Watson character – making the kit as presented will still produce a superb model.

The 64,000 dollar question is 'Will this follower of the small scales see the light, do the fashionable thing and change to 7mm scale?' The politician's answer is 'I don't see why people have to be committed to just one scale. Variety is the spice of life.' I find 2mm scale so much more convenient and, dare I say it, more challenging, but the big size does have its attractions. Middle son seems quite interested in it at the moment and so small developments could happen with him. Building a big A4 has fulfilled one of my childhood dreams, but now that I see Mr. Finney is making a Duchess, perhaps another childhood dream could be pandered to. Isn't that the business we are in?



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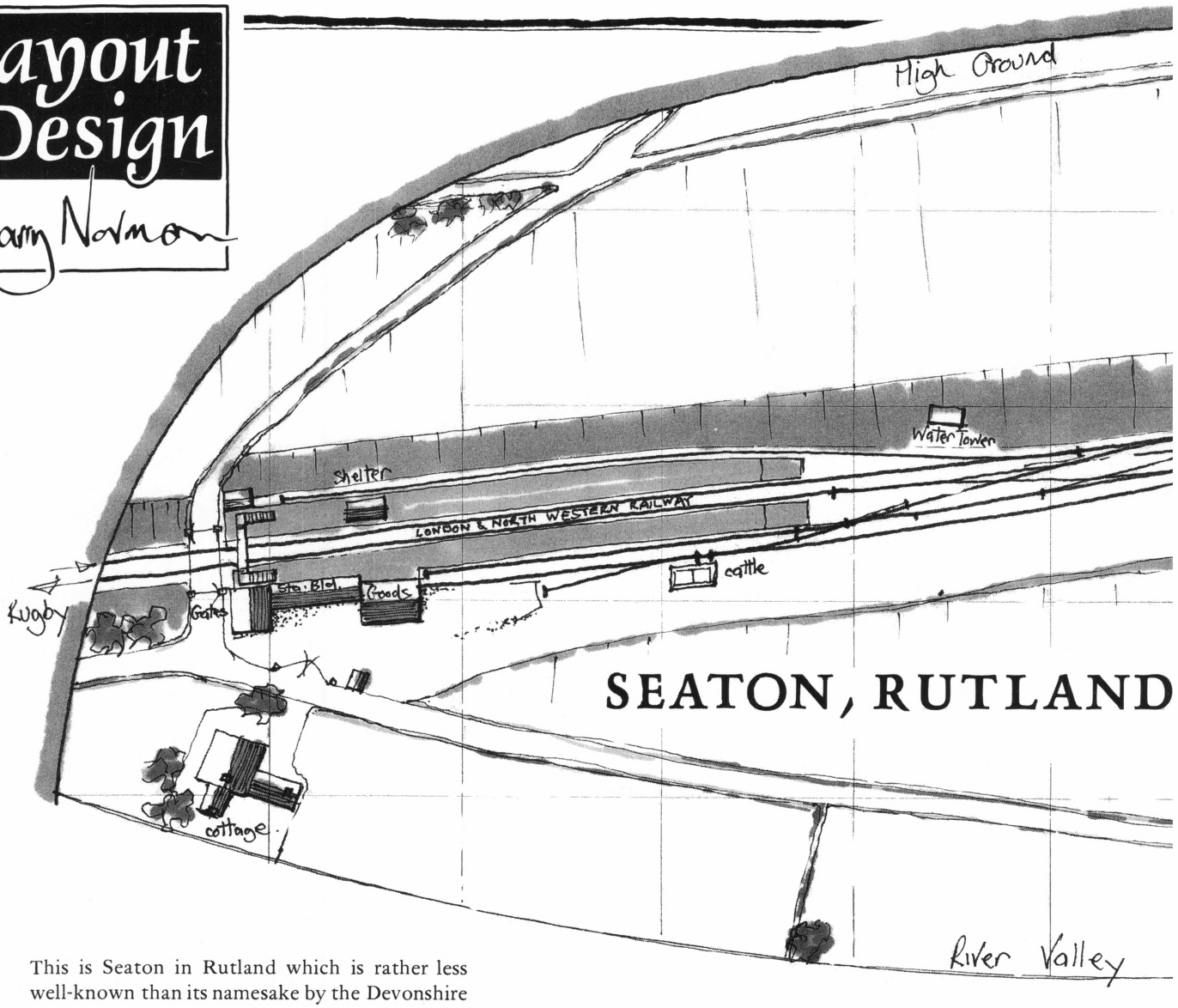

SEATON, RUTLAND

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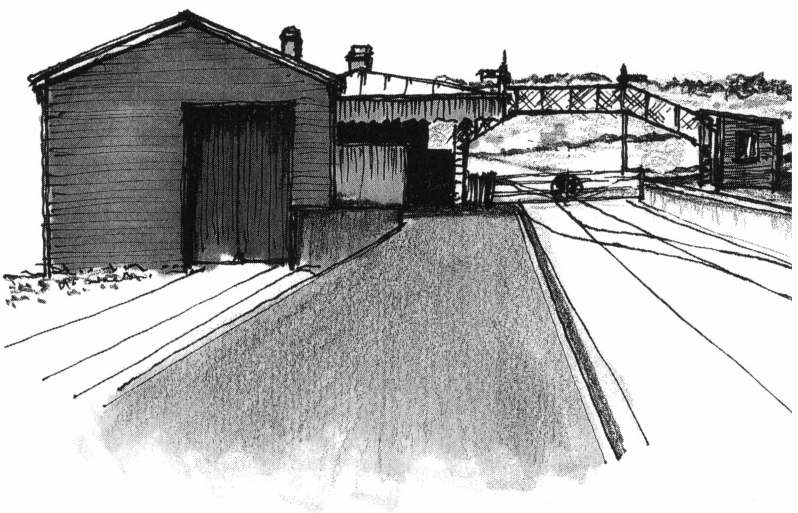
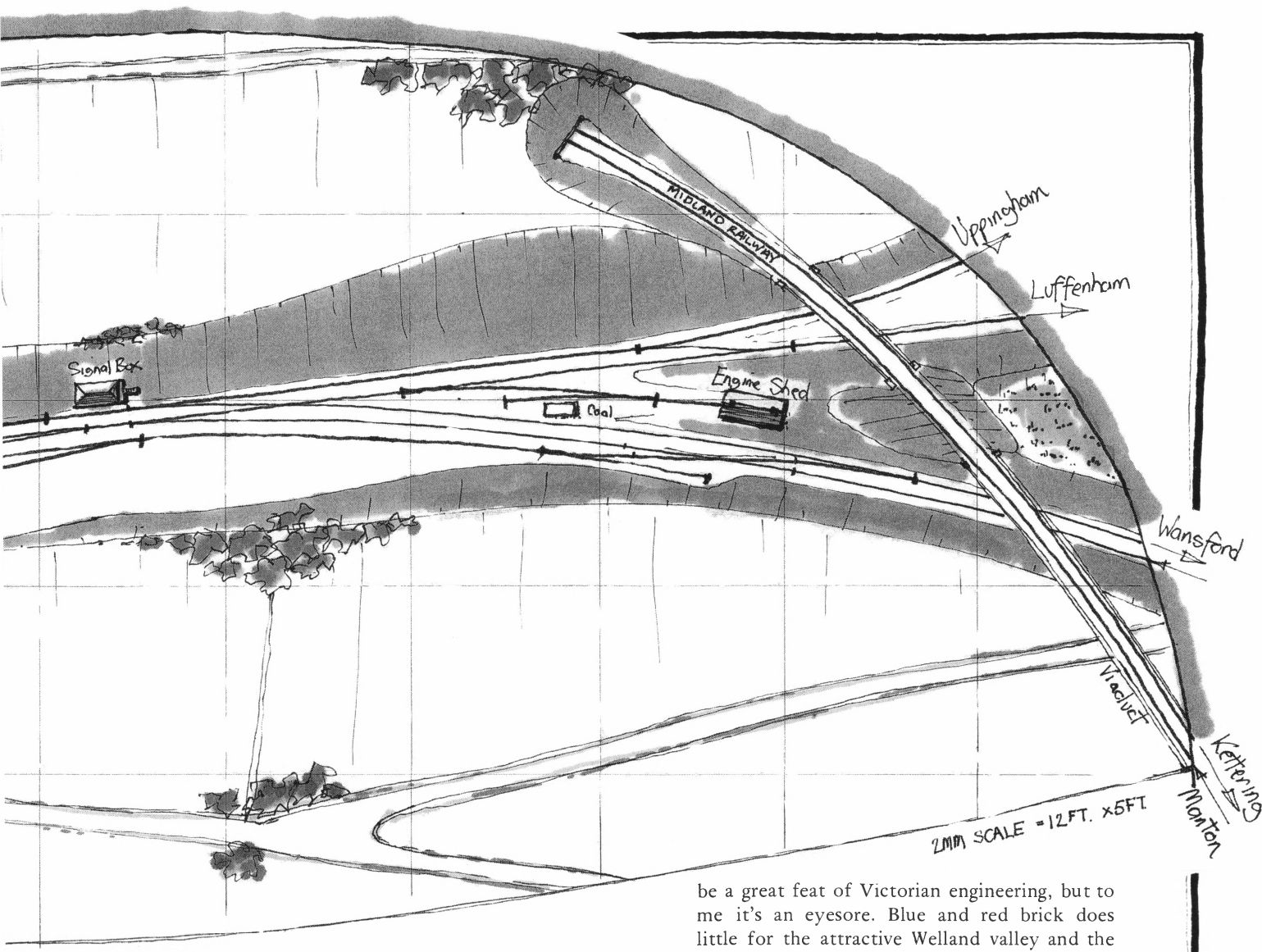
The village of Seaton perches high on the hillside above the station, and, like the railway, has spectacular views across the Welland Valley towards Harringworth and Corby. It is little more than a hamlet of stone cottages, farms and pub, but just happens to be near to the natural meeting place of the branch line from Uppingham and the line to Stamford (via Luffenham) with the LNWR Rugby to Peterborough cross-country route. This principal route also gave access to the Great Northern so that it was able to run trains from Peterborough towards Leicester via a joint line through Tilton. The meeting of these lines would give much scope for operation in a model. The shuttle of





motor trains to Uppingham (often taking schoolboys to the public school) and the infrequent auto-coach to the Midland Railway at Stamford, feed the stopping LNWR trains. Much could also be made of the goods, mineral and parcel traffic to make this a truly entertaining layout.

Clearly this is a large station, but even in 4mm scale it would make a challenging group project that isn't too extensive. However, I have always seen this junction as a 2mm scale diorama and that is why I have included the Midland Railway line that crosses the valley on the Harringworth viaduct.

I frequently drive through Laxton and down the steep hill into Harringworth from where the full spectacle of the viaduct can be appreciated. It is the largest structure of its type in Britain and consequently dominates the countryside around it. Some might think this to be a great feat of Victorian engineering, but to me it's an eyesore. Blue and red brick does little for the attractive Welland valley and the quaint limstone cottages that sit uneasily in its shadow.

Under one of its last arches a lane take you past the station at Seaton which is relatively complete. Although the wooden engine shed disappeared in the 'sixties, the goods shed, waiting shelter, iron footbridge, stone station master's house and typical LNWR wooden station building are still in existence, and very much give the impression of a complete station. However, the site is now used as a scrap yard and dump for hundreds of rusting cars which leaves access limited, unless you are interested in a rear axle for a 1985 Ford Escort.

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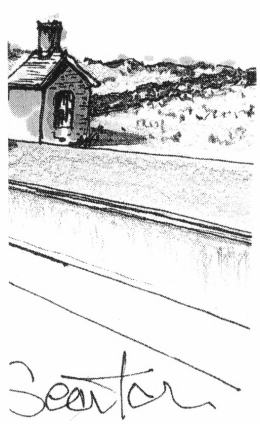
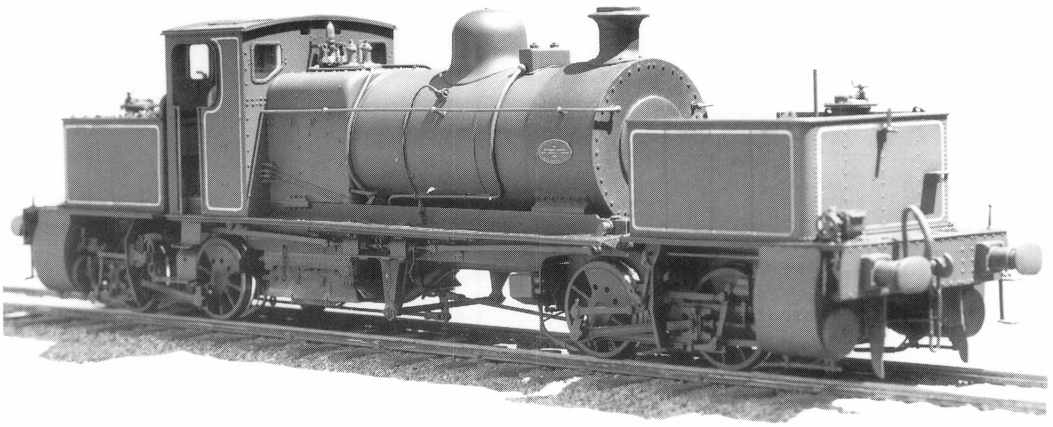
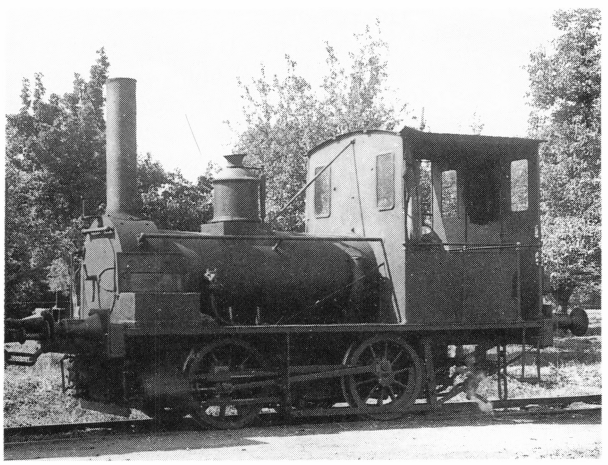


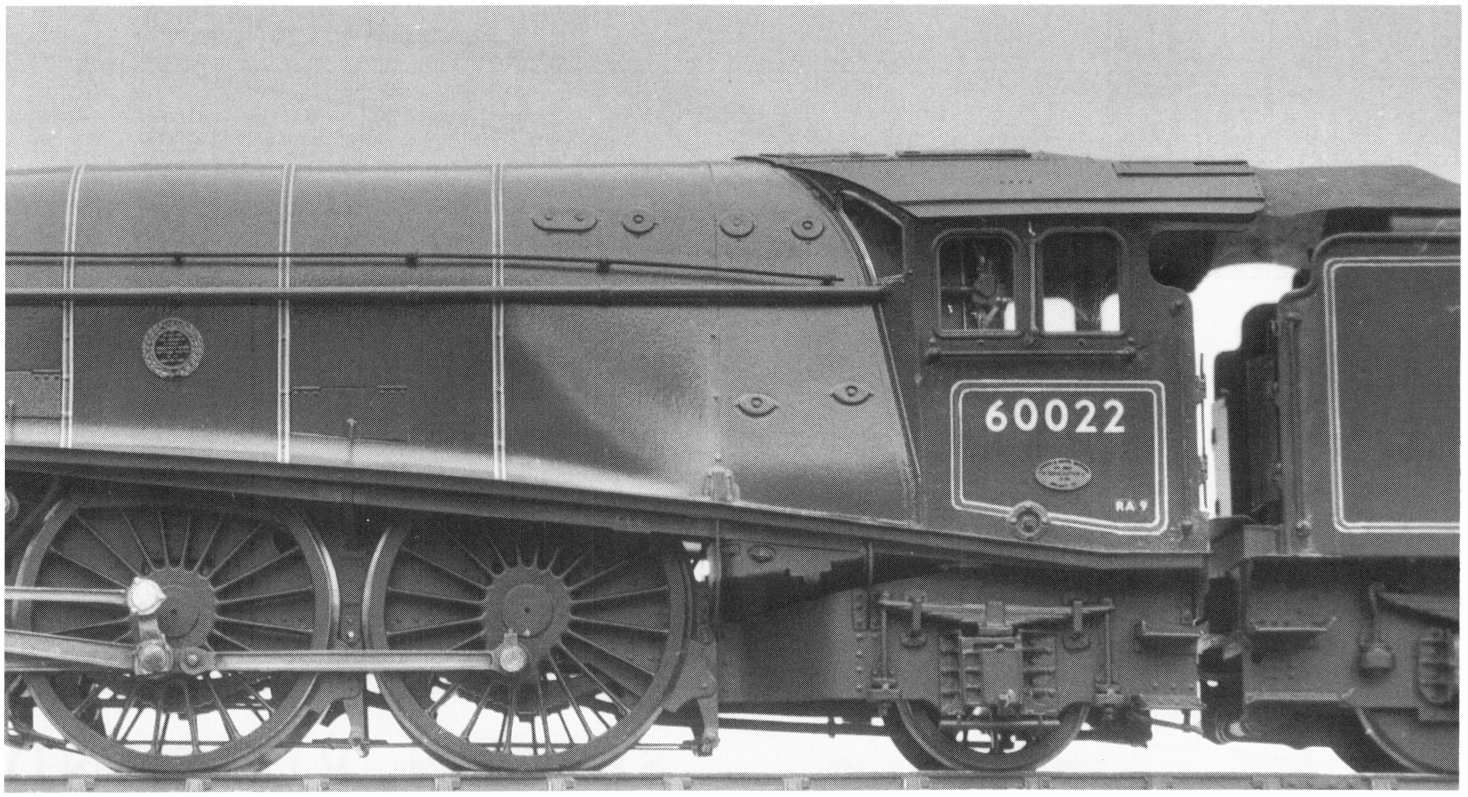
MRJ PORTFOLIO



The first run of British industrial Garratts in 7mm promised from Paul Berntsen has been completed – and here is the evidence. These magnificent ready-to-run models, now all sold, were offered in all the prototype guises and these are just two examples: the special for Vivian & Sons of Swansea (top) with simplified braking and a mass of sandboxes and associated plumbing to cope with the horrendous curves at the company's copper mills; and *William Francis*, built for Baddesley Collieries and carrying a variety of evolutionary modernisations. The models were entirely hand-built and painted by Paul and his extremely talented right-hand man Raoul Quinn, who beaver away at The Model Company in New Zealand.

The success of this project has prompted Paul and Raoul to embark on a second batch of top-quality 7mm ready-to-runs, this time of Wantage Tramway's No. 5, usually known as *Jane*. Specifications will be the same – entirely hand-built from original drawings, with correct-pattern drivers, completely concealed drive and a paint finish of weathered GWR green. Alternative parts will be available to accurately portray the engine at different periods. Price will be £1,045 including carriage to the UK. For further details, contact The Model Company at 21 Korotaha Terrace, Rothesay Bay, Auckland 10, New Zealand, phone or fax 0064-9 479 4297.





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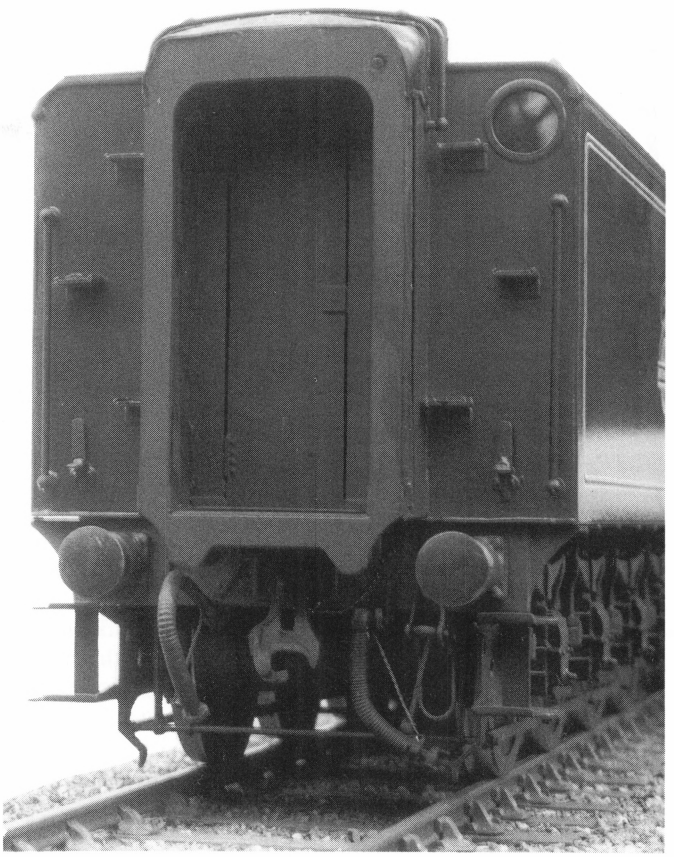

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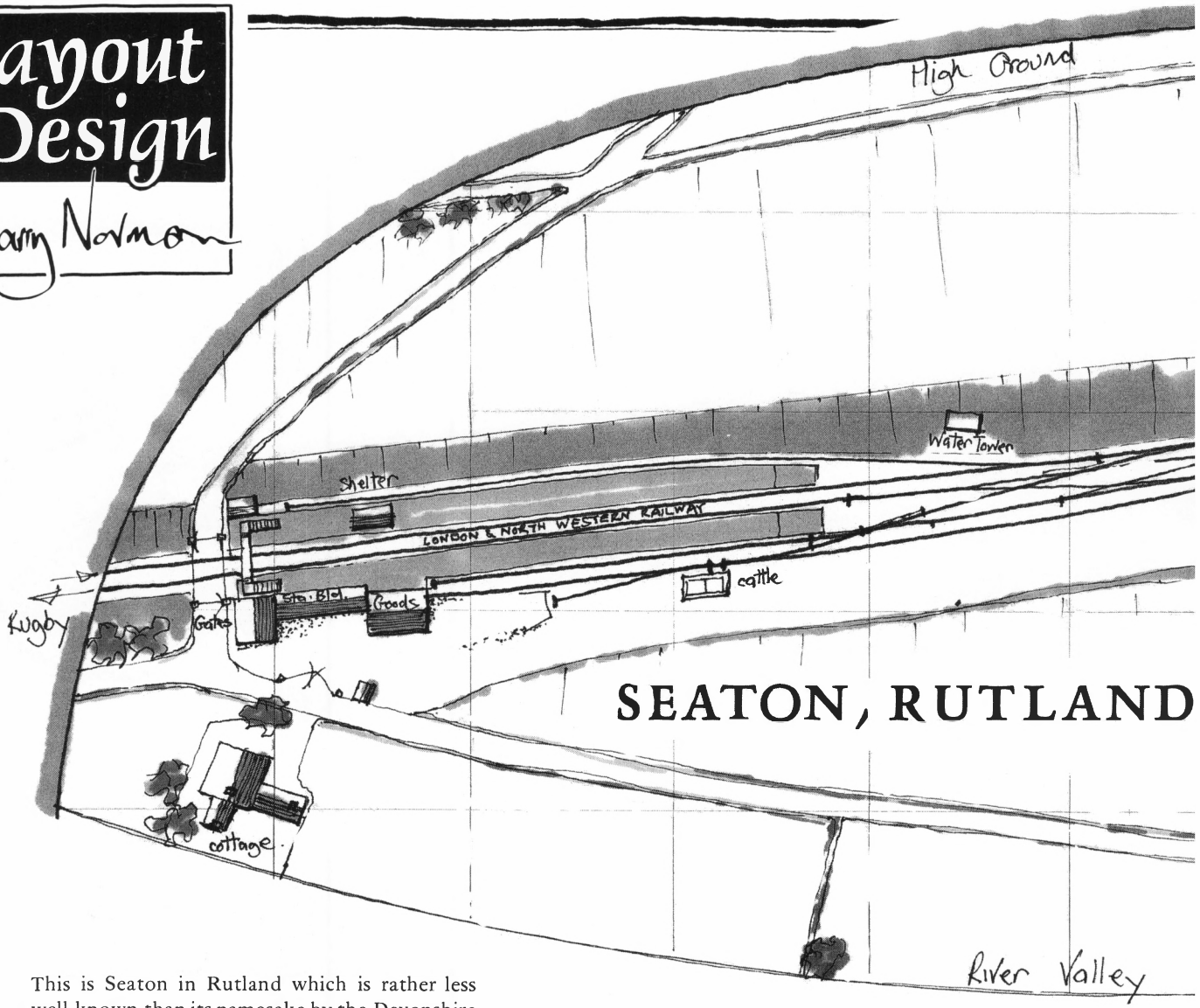

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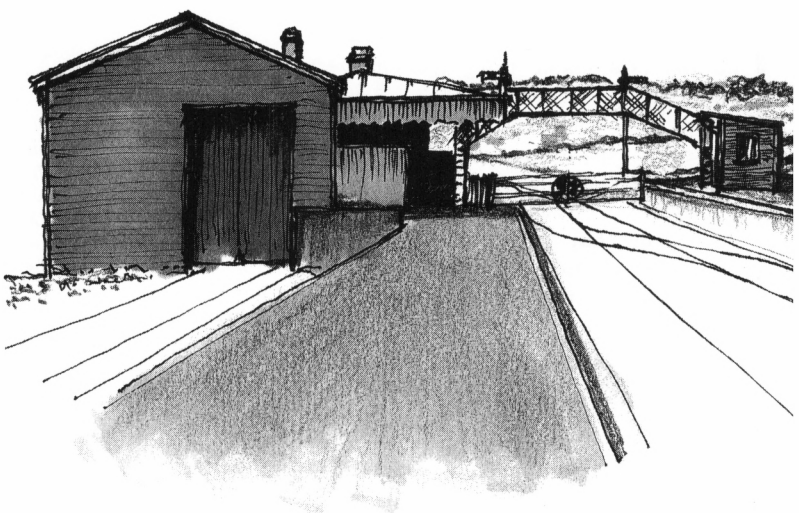

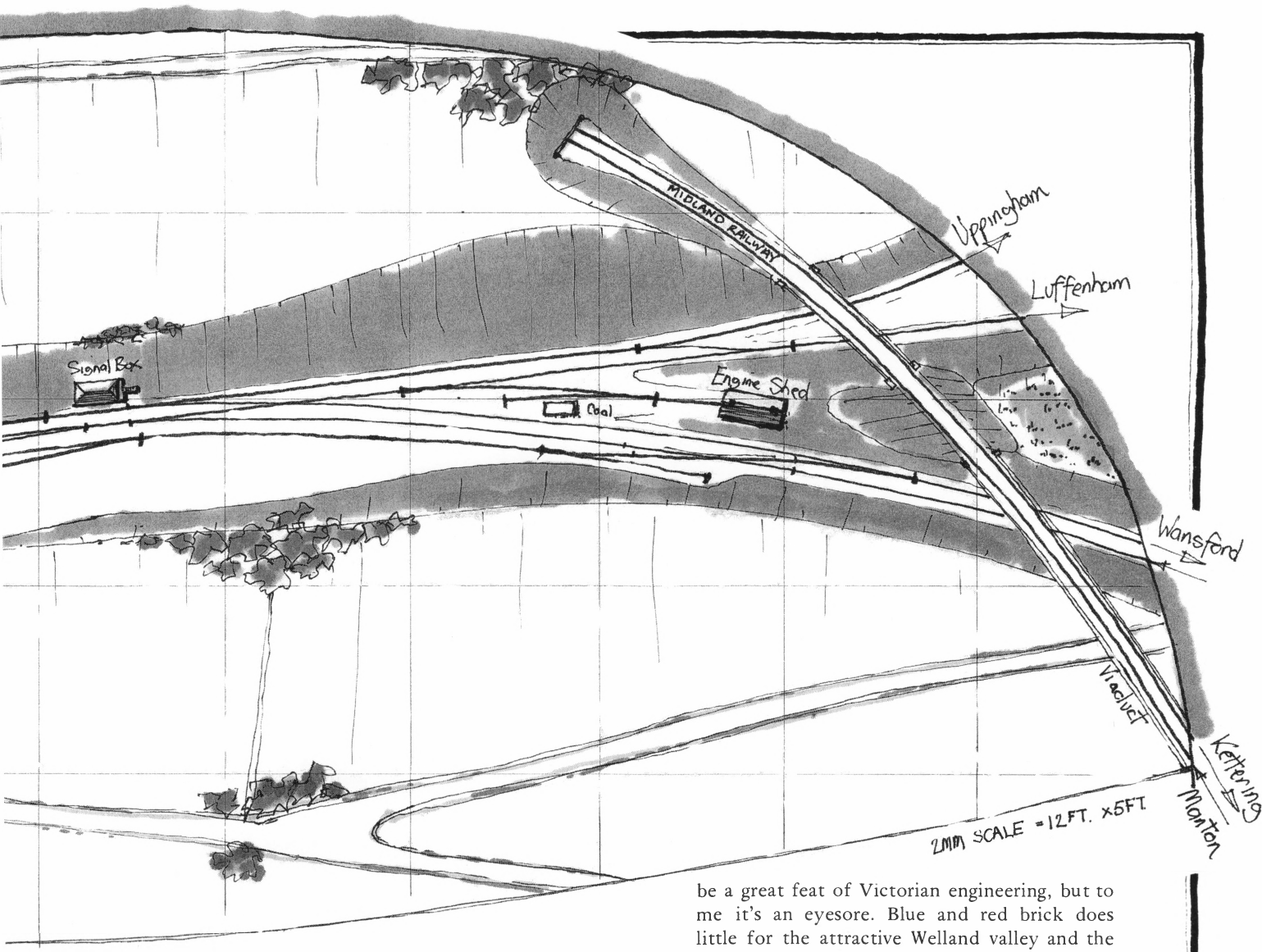

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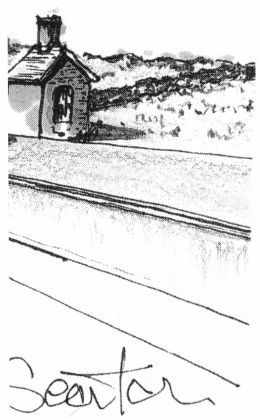
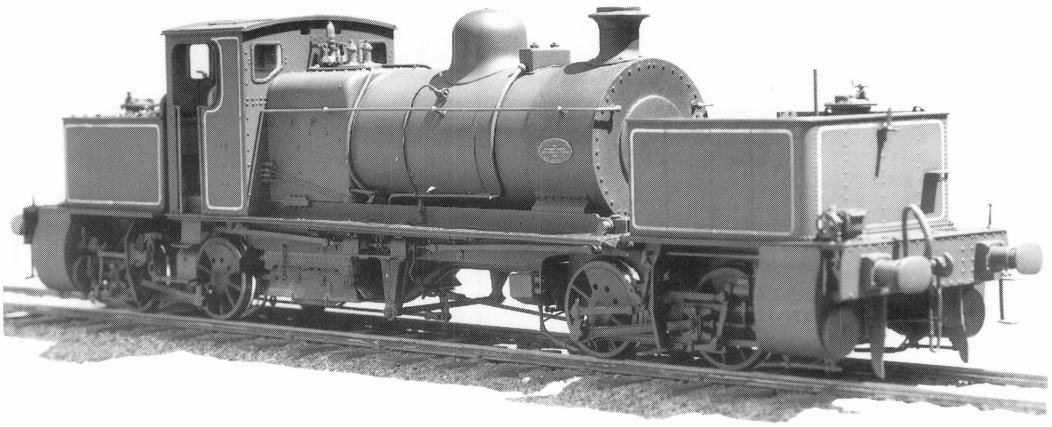
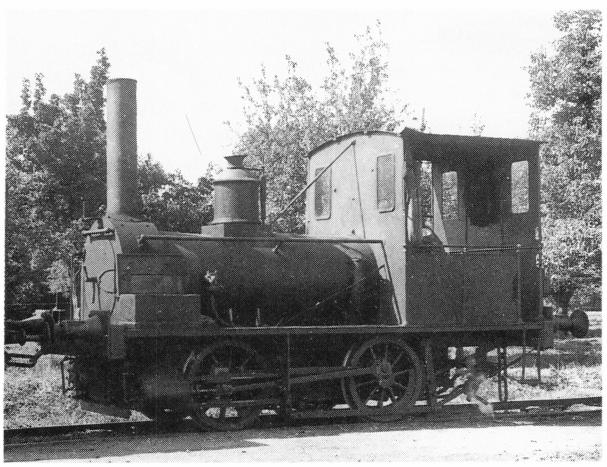


MRJ PORTFOLIO



The first run of British industrial Garratts in 7mm promised from Paul Berntsen has been completed – and here is the evidence. These magnificent ready-to-run models, now all sold, were offered in all the prototype guises and these are just two examples: the special for Vivian & Sons of Swansea (top) with simplified braking and a mass of sandboxes and associated plumbing to cope with the horrendous curves at the company's copper mills; and *William Francis*, built for Baddesley Collieries and carrying a variety of evolutionary modernisations. The models were entirely hand-built and painted by Paul and his extremely talented right-hand man Raoul Quinn, who beaver away at The Model Company in New Zealand.

The success of this project has prompted Paul and Raoul to embark on a second batch of top-quality 7mm ready-to-runs, this time of Wantage Tramway's No. 5, usually known as *Jane*. Specifications will be the same – entirely hand-built from original drawings, with correct-pattern drivers, completely concealed drive and a paint finish of weathered GWR green. Alternative parts will be available to accurately portray the engine at different periods. Price will be £1,045 including carriage to the UK. For further details, contact The Model Company at 21 Korotaha Terrace, Rothesay Bay, Auckland 10, New Zealand, phone or fax 0064-9 479 4297.



Variations on the Peco 7mm GWR GOODS VAN

JAMES SNOWDON carves up a kit to make a Mink C, and looks at other options along the way:

By the turn of the century, the typical goods van was still a small vehicle, rated to carry between 8 and 10 tons and, as often as not, carrying far less than that. Most of the time, the goods that were carried were bulky rather than heavy.

Although the great majority of the GWR's goods vans, like those of any other railway, were of small capacity, typically 16ft long, the GWR developed in the early years of this century a policy of encouraging the use of high-capacity wagons, largely because of their higher capacity/tare ratio, which reduced train weights for the same overall payload. For general goods traffic, this resulted in the production of the 21ft long vans to Diagram V2, V3 and V7 in 1906-7, followed closely by the 28ft 6in vans to Diagrams V9 and V11, perhaps better known as the Minks B/C and D. Apart from the 20T capacity V2 vans, of which there were only six examples, all were rated for 10 tons payload, intended to cater for loads where volume was more critical than weight. The 21ft van was also developed as the Diagram Y3 and Y8 fruit vans, both steam heated and insulated, and as the Diagram S3 and S12 fish vans.

In O scale, one of the best kits available is a GWR standard 16ft goods van, originally developed by Websters and subsequently adopted by Peco. Although, as sold, it makes a very good model of the Diagram V18 van, dating from 1923, the extent to which the GWR standardised its designs means that it can readily be used as a base for many other variations. Substituting Dean-Churchward brakegear results in the V16 Diagram, dating from 1912, whilst fitting taper-shanked buffers and modifying the end ventilators yields the V12 diagram, dating from 1907 and, perhaps, the definitive GWR goods van. Other variants of the original V12 design appeared as fish and fruit vans.

The development of the high capacity vans occurred at the same time, with the result that there are many standard features common to all of the vans. Thus, apart from the fish vans and the Diagram V2 vans, which had sliding doors, the bodies of all of these variants shared the same basic design features as the original 16ft V12 vans, having the same doors and ends, with differing size side panels in order to make up the length. The underframes also used the same standard components, except the long 28ft 6in

V9/V11 vans, which utilised longer, link-suspended springs and, in some batches, eight-shoe clasp brakes. In keeping with the forward-looking policies of the GWR at that time, all but the earliest of the V3 vans were vacuum braked, and even these were converted within a year of their construction.

THE MODEL

As a result of the slow evolution of the Swindon design standards, the basic Peco kit lends itself admirably as the basis for modification by judicious cutting and re-assembly of the body parts to produce these longer versions, although in order to provide enough parts, the major parts from two vehicles will be required. Buying two complete 16ft van kits is the simplest approach, but is not cheap, even though there are quite a lot of useful parts left over; the alternative is to buy a single kit and to obtain the additional parts direct from Peco, who have advised that they can supply complete moulding sprues separately at a cost of £1 each, plus a further £1 postage and packing. Either way, one of these wagons is more expensive than average, but then it is unlikely that many of us will want more than one of these large vans; not only are they space-consuming, but they were relatively rare.

The parts required for either type of van are as follows:

2 x Peco GWR Goods Van kits (W606)
OR
1 x GWR Goods Van kit plus the following sprues:
- Body sides and ends (x 2)
- Underframe and brakes (x 2)
- Roof (x 1)
- Floor plate (x 1)

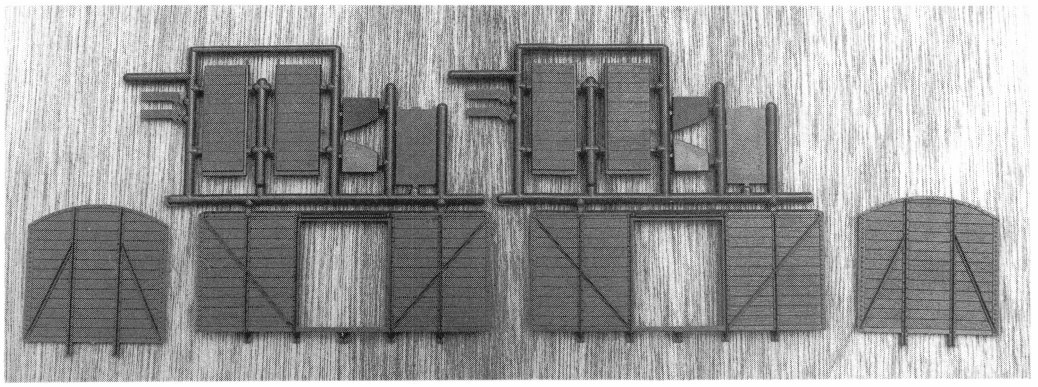
1 set taper buffers and couplings (Peco R03)
1 set Dean Churchward DC III brake gear parts (Peco R06)
1 set ABS bonnet vent and louvre shutter set if required for prototype and/or period chosen (ABS 0.328)
2 sets GWR push-rod brake gear (ex-Coopercraft or ABS equivalent)

Additionally, for the 28ft 6in Mink D, the following sprues from the GWR Diagram AA1 6-wheel goods brake van:
- Centre axlebox springs and hangers (x 2)
- Brake shoes (x 1) – Diagram V9 only

Also required are various styrene sections and rods from which to create the replacement framing and complete the brake rigging – the 10 x 40, 40 x 60, 10 x 30 and 40 x 80-thou rectangular and 25 and 47-thou diameter rods from the Evergreen range are useful, together with various other miscellaneous sections as required for strengthening joints, where the actual size is not critical.

CONSTRUCTION

Although the Peco kit may be a first-class example of highly detailed, accurate moulding, it does suffer slightly from the fact that the doors were designed to open and close, for which reason their hinged edges have been rounded off so as not to foul the body framing. The full-size doors were hung on butt hinges and consequently fit snugly up against the body framing. Although the rounding off is not particularly obtrusive, it is visible and prevents proper detailing of the door hinges. The first task in building any of these vans, therefore, is to square up the



The parts of the Peco van laid out before surgery.

edges of the doors by filing a flat onto the round edge at about 60 degrees to the door face and bonding a length of 20 x 60-thou styrene strip to this face, as shown in *Fig. 1.* Once the joint has thoroughly set, this strip can then be filed back to the door edge and face to create the necessary square edge. Dummy hinges, cut from 2mm wide 5-thou sheet can then be applied over the moulded impressions and the doors glued into the body sides. Although the doors are a good fit in the bodyside aperture, I find it worthwhile to reinforce the joint with lengths of a suitable rectangular styrene section on the inside face, thereby making the sides more robust when the real surgery starts.

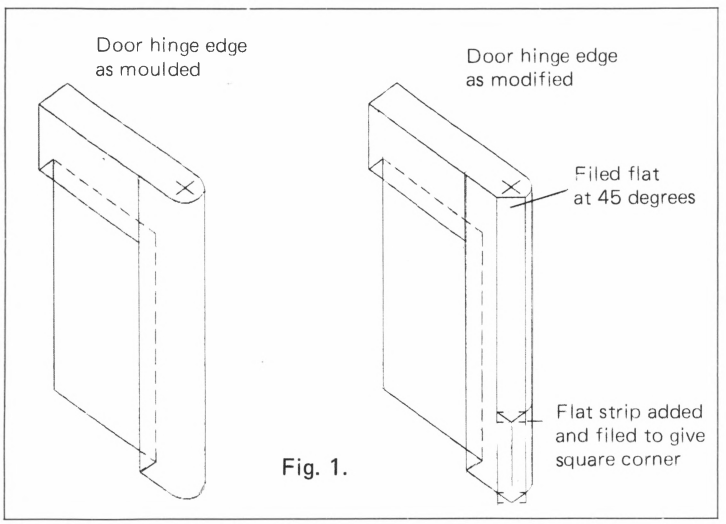

Door hinge edge as moulded
Door hinge edge as modified
Filed flat at 45 degrees
Flat strip added and filed to give square corner

Fig. 1.

It is also, at this stage, worth removing the surplus body framing while the sides and ends are still flat and in one piece. In the case of the 21ft vans, the diagonal bracing needs removing only from the outermost side panels and at the feet of the vertical adjacent to the outer edges of the doorways; the centre panel of the 21ft van is, fortuitously, the same width as the whole end panel on the 16ft body, so that the diagonal bracing assumes the same angles and can be left in place. *Fig. 2* shows the extent of work required.

The ventilation arrangements, if present at all, vary considerably with original build date and later rebuilding. As built, the earlier examples of V3 that were built as ventilated vans (many were non-ventilated Mink Bs) had only a single centre ventilator hood, with flat strip X-bracing of the body; the later examples were fitted with the large louvred vents with sliding shutters either side of centre, still with flat X-bracing. Only with later rebuilding did any of these vans gain the twin bonnet vents and L-section bracing as provided for in the kit. Thus, depending upon the period and prototype being modelled, the diagonal braces may need to be removed from the end mouldings.

A peculiarity of these kits is that the variety of styrene from which they have been moulded is considerably harder and tougher than is usual, making it more difficult to shave off thin layers. After initial difficulties using a scalpel, I experimented with coarse dental burrs, and even delicate grinding, before coming to the conclusion that the best tool for the job is a really sharp scalpel, used with care (scalpels were designed to cut, and if badly handled will cause considerable personal damage with not much effort). With experience, the best approach seems to be to pare away the bracing sections until nearly flush with the planking and then to scrape the remaining plastic away until a step-free surface is obtained. Because the vehicle, once painted, does not present a vast shiny surface, flatness is not critical; however, the scraped surface does lack the grained finish of the planking, so it should be kept as small as possible consistent with a good finish. The plank joints will also have to be reinstated using a V-shaped cutting tool held against a steel rule.

With the body sides and ends thus prepared, the real surgery can commence. Remembering that the body sides have left and right-handed ends, the left-hand end of the Peco side moulding is cut along the outboard edge of the intermediate upright, to give a single width panel with a mitred edge, and along the outer edge of the doorway upright; the intervening single panel is waste. Similarly, the right-hand end of the body side moulding is cut along the outer edge of the intermediate upright, the mitred outer panel being waste this time. This is repeated, in the opposite hand, to make the right-hand end of the finished body. There being only a single central body upright, the left and right ends are not quite symmetrical; it is, however, better to be cautious and end up with the centre upright remaining on both left and right-hand ends, it being much easier to cut the extra upright off than to reinstate one of them. Cutting along the edges of the vertical body frames is a useful (and old) trick for disguising the final joint, since this now runs up an intended discontinuity and is thus far less obvious than one in the middle of a panel. Such joints, however, are virtually impossible to fill neatly once made, being hard up against the body irons. It is therefore essential that the various joints are both square and straight, and match up neatly before assembly. It may, depending upon the width of the saw blade used to make the cuts, be necessary to pack each joint with styrene strip before final assembly;

in this instance, I used a miniature razor saw, with a blade width of about 30-thou, and found that no packing was needed to correct the overall dimensions. With a thicker saw, 10 or 20-thou packing would probably be appropriate. Even then, the minor errors which will occur in the overall length are .not worth worrying over, as they will only be evident by actual measurement; the Mk I eyeball will not be able to spot them!

The new sides can then be reassembled from this kit of parts as shown in *Fig. 2* to give the required 21ft long side with double doors. Murphy's Law dictates that the two reassembled sides will come out different lengths if given half a chance; with the accuracy with which the Peco kits fit together, such a dimensional error would have considerable consequences. Thus, it is better to assemble and carefully measure each side *before* gluing anything together and then adjust the lengths so that they are identical. Once this has been done, the sides can then be permanently assembled, using a substantial piece of styrene strip, typically Evergreen 0.25 x 0.080in, for reinforcement. This sits on the ledge provided by the slot for the floor, so that it also greatly assists in keeping the assembly straight.

With the sides assembled, the builder now has a fundamental choice to make. As designed, the original kit was intended to be assembled underframe first, with the body then erected onto the completed assembly – a method doubtless arising from the way in which the body frames are carried under and onto the face of the solebars, which then become trapped in position. Unless great care is taken to make the reassembled body sides precisely the correct length, there is a risk with this approach that the body and underframe will not match up correctly, recovery from which could be extremely difficult. The body *can* be assembled. In this instance, it is preferable to build the body first, concentrating on getting that square, and then to fit the underframe to it, in which case any dimension errors will not become obvious. However, because of the tuck-under of the body frames, together with the accuracy with which they are moulded, the task is not so simple as might at first appear.

Assembling the body is, thanks to the accuracy of the toolmaking, very straightforward. The roof, which is formed from sections of the two roof mouldings in the original kits, is also added at this stage in order to maximise the robustness of the body during the following detailing stages. Detailing on the body itself consists entirely of remaking the missing diagonal bracing and, if appropriate, fitting the ventilator panels or hoods to the ends.

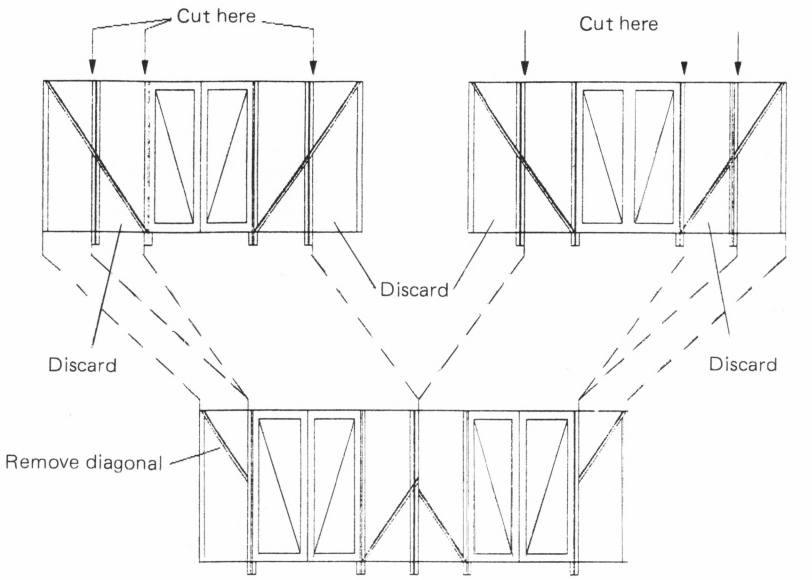
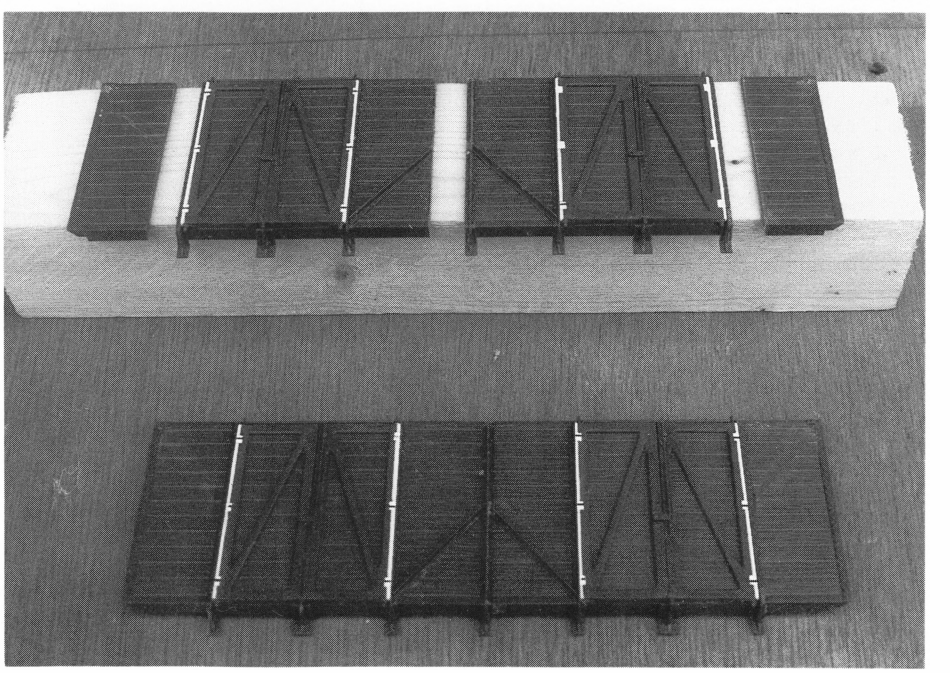


Fig. 2. Cutting and reassembling the sides.

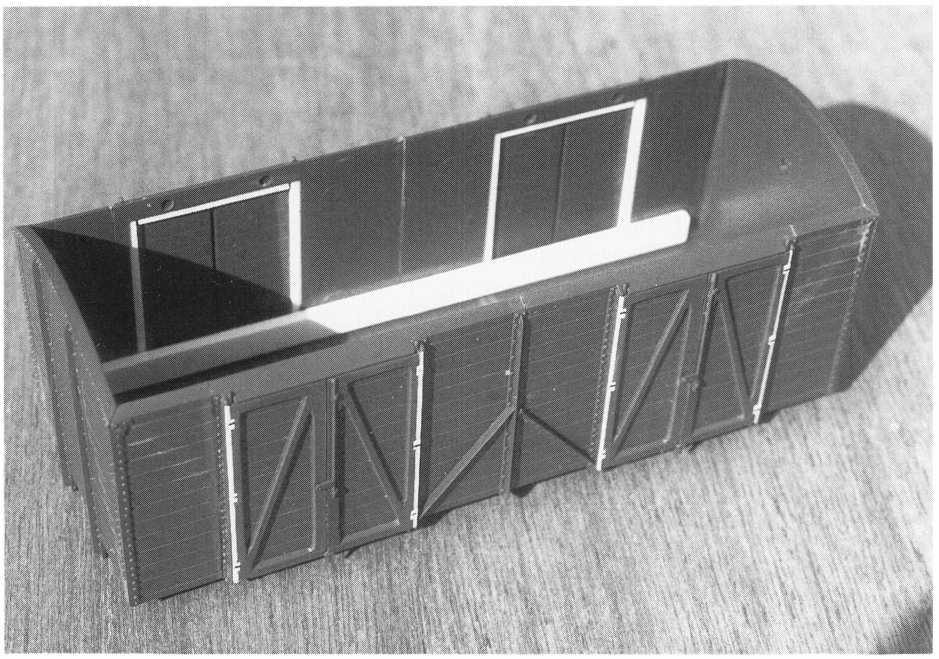


The two sides as rearranged for the longer body of the Mink C, before and after assembly. The white areas show where the filler strip has been let in to square up the door edges and the added door hinge detail. The apparent stripe on the hinges is just that – added to aid getting the pieces of styrene strip the right way round.

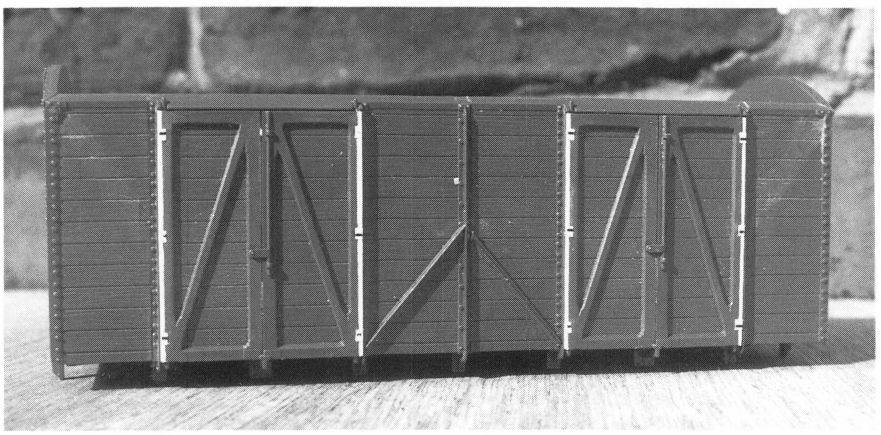
The bracing is built up from Evergreen 10 x 40 and 10 x 30-thou strip, the wider strip forming the section lying against the body planking. The resultant angle section is actually a tad on the small side compared to the sections already moulded on the body sides, and use of 10 x 40-thou strip throughout would have given a slightly greater depth to the bracing. The flat diagonal braces on the ends are also 10 x 40-thou, again slightly undersize; 50-thou strip would have been correct, but requires hand-cutting, whilst the next commercially available strip, at 60-thou wide, is visibly oversize. 40-thou width appears a reasonable compromise. The end vents, if being modelled in original form, are available from the ABS

range, which gives a choice of either the large movable shutters (but not the louvred panels behind them) or the single central hood. All but the earliest 21ft vans, to Lot 475, were built with the sliding shutters; the vans to Lot 475 were built as either unventilated (Mink B) or with the single centre ventilator hood. Some, but not necessarily all, vans later received the 'standard' arrangement of twin ventilator bonnets and angle-iron bracing, as per the kit.

With the body shell thus assembled, attention can be turned to the underframe and running gear. Like the body, this is an amalgam of parts cut from the underframes of the two kits, necessary to allow for the longer 12ft wheelbase and greater end overhang. The solebar mouldings from the kit consist of the solebar and bearing springs combined, with separate mouldings for the axleguards and axleboxes, and, from the two kits, we have four of these mouldings, each of which has to be cut differently. The end



Body shell erected, showing the internal bracing to both the body sides and the doors.



Body shell erected.

PROTOTYPE DETAILS

In all there were 624 covered goods vans to the standard designs, together with a solitary tool van, built as follows:

LOT 475
98 vans to Diagram V3, Nos. 79046-79143, built 8/1904 to 10/1905. 21ft long externally. Vans 79055/66/73/103 noted as being fitted with screw couplings. Two internal heights – 7ft 6½in and 8ft 0½in are recorded, but in unknown quantities. Built as both unventilated (Mink B) and ventilated versions (Mink C), the latter almost certainly having a single vent bonnet, located centrally.

LOT 492
One sample van to Diagram V9, No. 79145, built 3/1905, 28ft 6in long externally, with 20ft wheelbase. Noted as having no ventilators, but fitted with eight-shoe clasp type vacuum brakes.

LOT 510
100 vans to Diagrams V9 & V11, numbered variously in the 28701 series and coded Mink D. The first 50 vans, to Diagram V9 had a 20ft wheelbase and clasp brakes as per 79145; the final 50, to Diagram V11 had the wheelbase reduced to 18ft and pushrod brakes. Louvre vents and vacuum brakes fitted to all vehicles.

LOT 528
225 21ft vans to Diagram V7, numbered 79366-79590, built 1/1906 to 12/1906 and coded Mink C. Louvre vents and vacuum brakes fitted to all vehicles.

LOT 537
100 21ft vans to Diagram V7, variously numbered in the 162XX and 164XX series. Known numbers are 16203/36/37/46 and 16400/02/12/13 and 16418. Built 7/1906 to 6/1907.

LOT 546
100 21ft vans to Diagram V7, numbered 82101 to 82200. Built 8/1906 to 6/1907. Noted as having screw coupling and vacuum brakes.

LOT 660
25 28ft 6in vans to Diagram V11, variously numbered in the 28800 and 28900 series. Known numbers are 28833/35/37/43/53/57/66/71, 28773/74/88/90/93/99, 28900/09/11/17/18/19/25/29/33. Built 10/1910 to 12/1911.

LOT 718
One 28ft 6in Tool Van to Diagram CC8, numbered 143, in 1913. Built for the Loco Department, Stafford Road Works. Based closely on V11 design, modified by the addition of skylights and end doors.

overhang on the 21ft van is, at 4ft 6in, a foot longer than on the 9ft wheelbase 16ft van on which the kit is modelled, so that some surgery is required. Because the underframe is going to be built from one end, the first move is to fit one of the headstock beams. Two types are provided in the kit, square-ended and angled, the former being correct for the period in which these vans were built. As provided, they will need to be shortened slightly at each end so that the corner angles on the body can be correctly carried down to the full depth of the frame. It is also, at this point, worth checking that the drawhook can be fitted in the slot provided and, as necessary, the slot suitably enlarged whilst there are no constraints on access. As was noted earlier, the tuck-under on the body frames means that the solebars cannot simply be offered up and stuck in place, as with most kits; they will have to be slid into place from one end, for which reason the underframe is assembled from one end, rather than towards the middle, as might be usual in cicumstances like these. Thus, it is necessary at the one end of the body to file two rebates in the bottom edge of the body end moulding, in line with the lengthways slot for the solebars – these rebates will be closed off again later by small sections of styrene strip. Access in this area for cleaning-up is limited, so it is worth taking care with these slots to get them square and no larger than is absolutely necessary to allow the solebar sections to pass through. No work is required at the other end, other than fitting the headstock moulding.

The first of the existing solebar mouldings is cut into two, each cut being made 29.5mm inside the axlebox centrelines. This, when reversed and butted up against the back of the headstock will give the necessary 4ft 6in end overhang, as well as moving the horse-hook holes to the correct position. The new inner end conveniently coincides with the inboard door pillar and is almost entirely hidden from view. The centre sections of the lengthened frame are cut from the solebars of the second kit and, together with the solebar and spring mouldings from the remaining solebar, are assembled to give the required 12ft wheelbase. *Fig. 3* illustrates the process. Because the cranked feet of the body frames are such a close fit to the solebars, they will not slide into position unless all the surface detail (bar the lowest row of rivets) has been cleaned off first. The loss of both the destination label box and the numberplate is not serious, as both would have ended up in the wrong position in any case; the box can be replaced by a cast equivalent from the ABS range or even

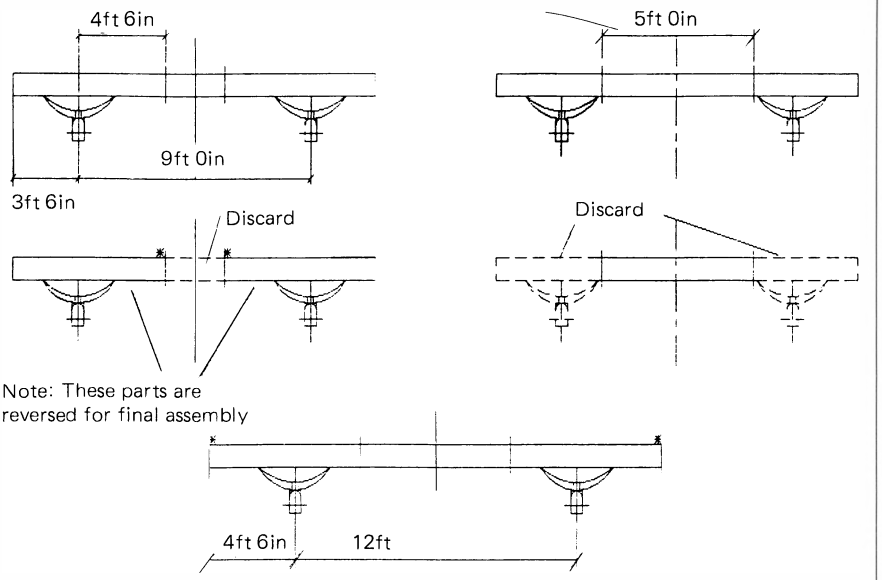
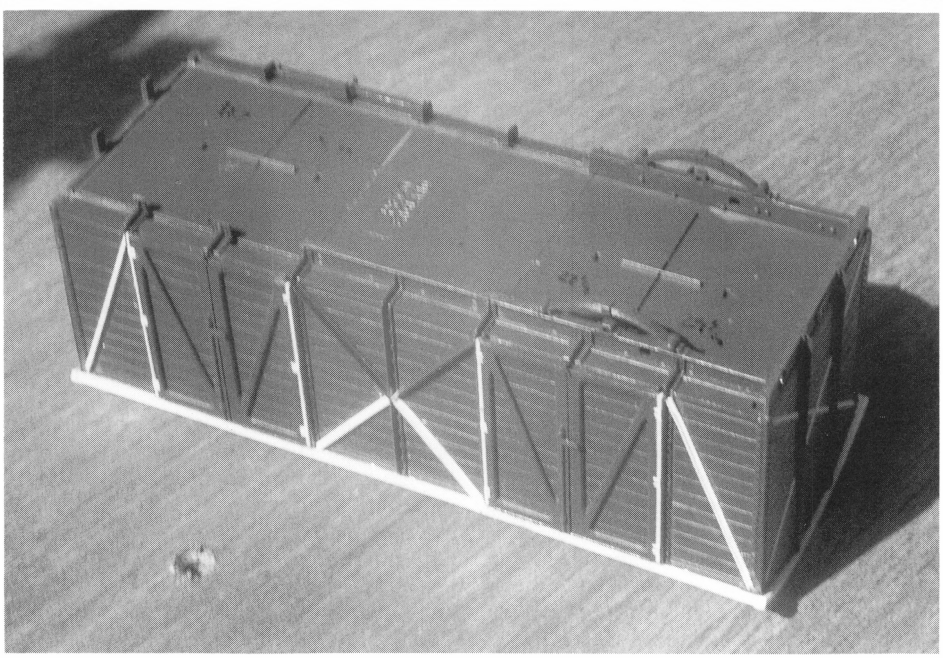


Fig. 3. Reassembly of underframe parts for 12ft wheelbase.



The underframe during the course of assembly, with the solebar sections being fed in from left to right along the slot created between the groove in the floor and the backs of the side frames.

built up from styrene sheet and strip, whilst a rectangle of 10-thou styrene will suffice for the numberplate.

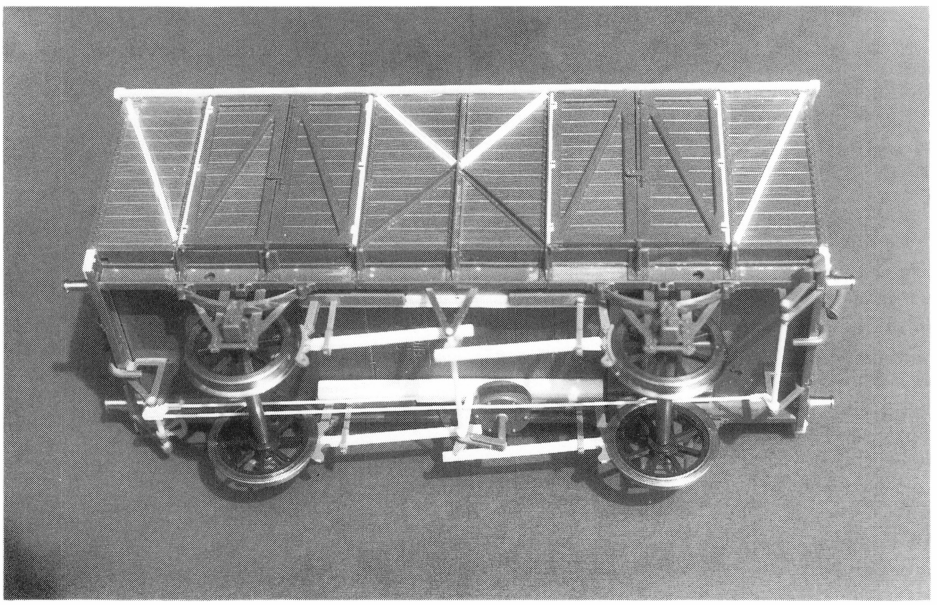
Like all the other ex-Websters kits, this one is designed to be built either rigid or compensated, the floating axle, if desired, being made up as a complete unit supported on pivot bearings. Assembly is uncomplicated, as per the original kit, although it is worth checking the fit of the parts, including the axles, before final assembly. Not for the first time, I found it necessary to shorten the axles by filing off the pin points in order to stop them bottoming in the bearings. Even then, the situation was not helped by the way in which the solebars, when fitted, had developed a small degree of inward lean, which, although not noticeable, was sufficient to close up the axleguard back-to-back dimension. For the same reason, the backplate of the floating axle unit also had to be shortened slightly so as to ensure clearance between it and the

spring mouldings. It is equally feasible to build the underframe without the compensation, but past experience with wagons with such relatively long wheelbases as this would suggest that compensation is worthwhile. Given that, in this case, all the hard work of installing the moving axleguard unit has been done for you, there is no real contest between the two methods.

The braking arrangements on these vehicles, as on the Mink Ds, varied quite considerably, with the very earliest versions, to Diagram V3, being fitted with the DC2 brake, operated from one end only and with only two brake shoes on the one side. The construction of these vans coincided with the widespread adoption of the vacuum brake on the GWR, as a result of which later versions were equipped either with four-shoe DC3 vacuum brakes, or, in the case of the Diagram V7 vehicles, eight-shoe clasp brake rigging, again with vacuum operation. The earlier wagons would rapidly have been brought up to standard with the fitment of vacuum braking. The Diagram V9 and V11 Mink Ds follow the same pattern, the earlier diagram having push-rod brakes whereas the latter was equipped with clasp brakes. Partly for convenience, clasp brake sets not being freely available at the time of writing, I have chosen to model an early V3 van, with the four-shoe DC3 vacuum brake, using parts taken from the Coopercraft and Peco ranges, supplemented by various hand-made items.

An untypical feature of the Peco kit, given its accuracy elsewhere, is that it retains the brake gear from the Ballast wagon kit, which predates it both as a prototype and a kit. As such it has been provided with inappropriate, if accurate, representation of the much earlier pattern of GW handbrake, where the shoes were simple castings rigidly bolted onto the hangers. This may be correct for such prototypes as the two open wagons on the Peco range; it is positively out of place for any vehicle built after the turn of the century and definite attention is required.

The builder has two choices here – either adapting the ABS cast brake set, or similarly adapting the brake gear from one of the Coopercraft kits. In either case, the principles are very much the same, apart from the difference in materials – cast whitemetal and styrene. I chose to take the latter course, having already got a number of sets of brakegear left over from building Coopercraft GW wagons. Because the V3 has a 12ft wheelbase, only the brake shoes, hangers and safety loops can be used; new pushrods



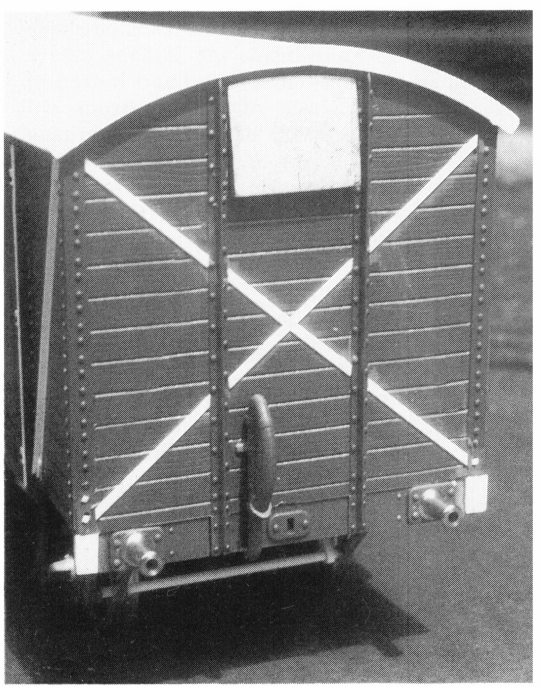
The completed Mink C almost ready for the paint shop. This view shows, in particular, the way in which the brakegear, which came from a Coopercraft kit, has been lengthened to fit the 12ft wheelbase and properly handed. The new parts, constructed from commercially available styrene rod and strip, show up in white against the grey of the Peco mouldings. Eagle-eyed readers will also notice that the right-hand W-iron and axlebox does not quite line up with the spring; because this is the rocking end, the axlebox/W-iron unit is mounted from the floor, which has actually been cut a shade on the long side.

are required, cut from 60 x 40-thou Evergreen section, remembering that the two sets of brake gear are handed. The V-hangers were leftovers from another kit, used only so as to save the Peco brake set complete, whilst the vacuum cylinder, brake hoses and Dean-Churchward brake handles were taken direct from the Peco detailing kit. Evergreen styrene rod, 0.047in diamater, was used for the brake shaft, whilst 0.035in rod was employed for the brake handle cross-shafts, with the brake handles drilled to fit over the shaft.

Because of the altered wheelbase, the original underframe infill sections cannot be used, so that some modification is required to cut away the top of the brake cylinder moulding so that it can sit between the solebar and the brake gear assembly. Detailing was completed by adding a brake ratchet, culled from a Coopercraft DC1 brake lever, and the various cranks and pull rods between the two brake handle shafts and to the main cross shaft. The latter were fabricated from 0.025in styrene rod, with the clevis ends made from 30 x 10-thou strip. The cranks themselves were shaped from short sections of 80 x 40-thou strip.

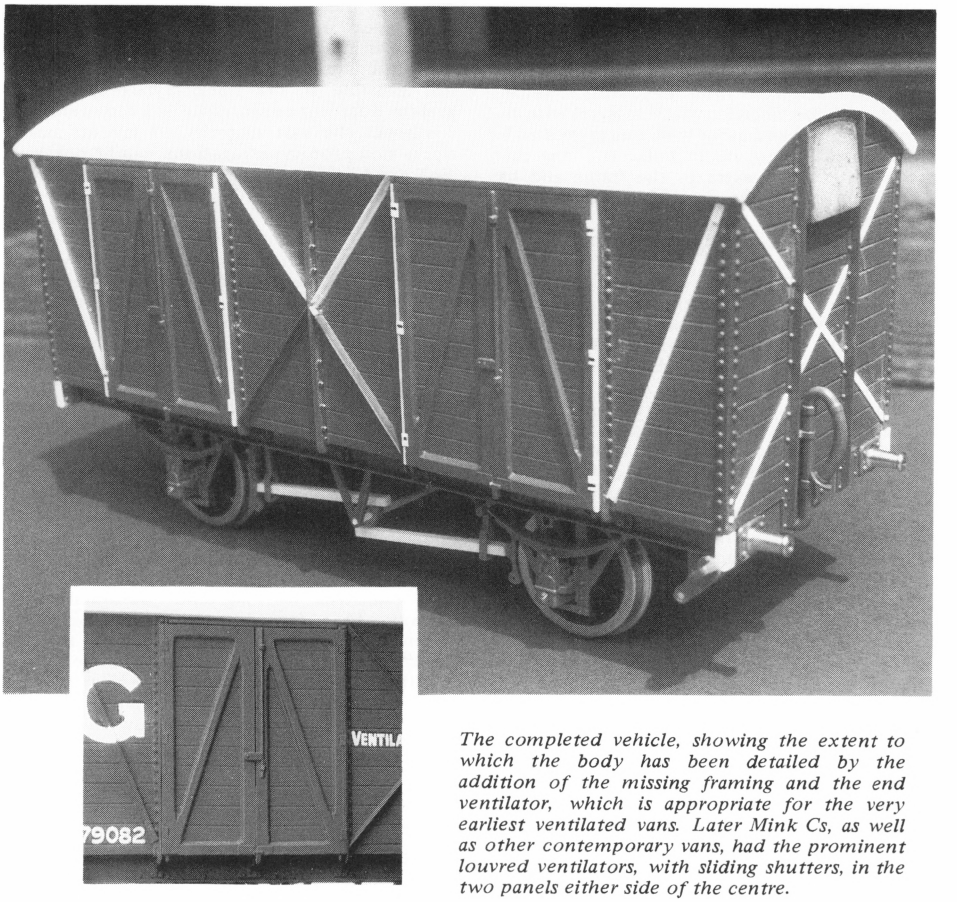
The later V7 Mink C vans and the V11 Mink D vans were, according to the diagrams, equipped with clasp brakes in lieu of the push rod brakes modelled. There appears to be little currently available in the way of suitable parts for this type of brake, at least as applicable to wagons, although the situation may well be remedied by Slater's forthcoming issue of the LMS pattern eight-shoe clasp brake set as a detailing pack for their shock-absorbing wagon kits.

The buffers provided with the kit represent the standard self-contained type used post-1900, with its heavy parallel body, which, although correct for the V18 van which the kit represents, are inappropriate for the pre-1910 vehicles.



These have to be substituted by the plain taper buffers, also made by Peco, for which the necessary mounting bosses are included in the kit.

With the addition of an appropriate painting and lettering scheme, the task is complete. At first sight, this is a relatively expensive wagon, the two Peco kits together costing around £40-£42, with additional parts bringing the total cost to around £50. However, for this, a number of useful spare parts are left over, particularly two complete sets of GWR self-contained buffers, four complete brake-gear sets suitable for early GW wagons and one pair of wheelsets, together with various miscellaneous parts, in themselves worth about £10. Peco have advised that the individual sprues can be obtained from them for £1 each, with a postage charge of a further £1; on this basis, the additional parts required for the body and underframe – i.e. two each of the body and underframe sprues, together with the roof sprue – should be obtainable for £6, or roundly two-thirds the cost of a second complete kit, after allowing for the number of useful spares which a second kit would have yielded. Requests for individual sprues should be directed to the Peco Technical Advice Bureau at their Beer address. I would add that I have no connection with Peco, or any of the other suppliers mentioned above, other than as a satisfied customer.



The completed vehicle, showing the extent to which the body has been detailed by the addition of the missing framing and the end ventilator, which is appropriate for the very earliest ventilated vans. Later Mink Cs, as well as other contemporary vans, had the prominent louvred ventilators, with sliding shutters, in the two panels either side of the centre.

Free motors with sound

With regard to Tim Shackleton's free-motor experiments in MRJ No. 93, I remember Bob Symes's original article in an old *MRN* many years ago. I tried it out in a Kitmaster Deltic which used a Triang EM2 power bogie and found it quite successful. The idea behind my experiments was to produce some sound as well as a smoother take-off. *My* free motor was also an XO4 fitted with a flywheel. The flywheel gave quite a bit of overrun capability and a piece of plastic glazing attached to it in such a way as to just strike a piece of metal or Plastikard on each revolution helped to make a fairly realistic sound (for the day). I am not surprised that Tim could not get the system to work with a modern coreless motor - the back EMF is minimal (as can be seen from the reported problems of compatibility between Portescaps and many feedback controllers) and I am sure that the best solution will always be a three-pole open-frame type. (I seem to rembember trying an MW5 5-pole version of the XO4 and this was not as good as the XO4 – you need a fairly crude three-pole motor which 'cogs' well to get a good back-EMF.)

Richard Syms
Warrington
Cheshire

Clashing Toads

Further to Alf Powick's letter on GW Toads (MRJ No. 93), he is quite right – No. 56810 was built in 1908 to Lot 592, Dia. AA2, one of 25 (56810-56834). They were 20ft long with 13ft wheelbase and 25 tons tare. However, John Hayes *has* built an accurate model of 56810. Constructed in 1921 to Lot 863, Dia AA15, and numbered 56733-56832, they were 24ft long with 16ft wheelbase and only 20 ton tare. These numbers clash – one can only assume that the 1908 batch were renumbered before 1921.

F. Warburton
Douglas
Isle of Man

Broach: the subject

I see frequent references in MRJ to the use of a broach. In many cases I have noticed, the reference should be to the use of a reamer. 'Broach' is not a synonym for 'reamer'. The two tools do different tasks. The only similarity between broaches and reamers is that both are elongated tools which are generally inserted through a hole in the workpiece; always in the case of a reamer, but not always in the case of a broach since a broach can be used against the edge of the workpiece. I have seen them used this way for machining the roots of turbine blades. A reamer is a finishing tool and cuts by being rotated in the workpiece. A broach, on the other hand, is usually employed to remove significant amounts of material and cuts by being moved axially through the workpiece. Reamers are used to finish round holes whereas broaches are usually employed where a non-round shape is required.

Ron Price
Ontario
Canada

Bachmann EM locos

In answer to the plea in No. 92 from Mr. Paul Moxham, my husband converts all our Bachmann locos to EM, and at this year's Expo EM exhibition at Bletchley, we have been asked to do a demonstration explaining how this is done, as last year we hardly managed to run our layout for stopping to explain why we had Bachmann engines running at an EM exhibition. The locos run on re-gauged existing Bachmann wheels. The only wheels that may need to be replaced are the tender and bogie wheels. For the unbelieving out there, some of these engines were put to the test on the C&L trackwork of the award-winning layout 'Striving' at last year's Expo EM and operated flawlessly. We hope to write an EM fact sheet in the near future, but until then we will assist with any enquiries at Expo EM and EM North this year.

J. A. Armitage
Keighley
West Yorkshire

Switches framed

Following the comment on my lever frame in MRJ No. 92, followed by a letter in MRJ No. 93, perhaps you would allow me to point out that the lever frame was one of my very early products, from 1989. In prototype testing the idea of the electric switch integral with the lever frame worked quite well, but proved to be a bad principle to use in bulk, and was then made an optional extra to the frame and has now been withdrawn from sale. Quite a few customers appear not to need electrical switches at all, while others have told me that they were going to use microswitches and I have suggested how they could be installed.

In 1996 one customer told me about a switch of which I was not aware. This is marketed by Maplin Electronics and others. I am endeavouring to undertake the required changes to the lever frame shell pattern to enable these switches to be fitted. I have not had sufficient time to proceed with this and I have been unable to keep sufficient stocks of the unaltered design to be able to supply them without notice. These changes will be made when I can, but in the interim Ambis can supply the switches without a means of locating them at the lever frame. I am looking at the possibility of making printed circuit boards to attach these switches to, but a complication is that there are at least three positions that could be used to locate them.

For anyone who is interested, the 1996/97 Maplin catalogue lists the following: 6-pole changeover switch as FH69A, price 91p each; 4-pole changeover switch, FH68Y, 76p each; 2-pole changeover switch, FH67X, 66p each. As supplied, these switches latch on/push off but the catalogue indicates how they can be modified.

Incidentally, the same supplier produces a 4-pole/3-position switch which only needs 4mm of movement in total. This opens the possibility of using one lever for operating a three-way or interlaced point, a single slip or other functions. This is FH38R costing £1.00, but is designed for printed circuit board mounting, whereas the other switches have both a tag connection and a printed circuit board lead. If anyone has visited my stand recently or acquired a copy of my new guide, these items are outlined there.

Finally, I am particularly curious as to the comment by Stephen Harris in MRJ No. 92 as I am fairly sure some lever frames are in use in 7mm or 10mm garden railways, so what scale of force did he use for his 2mm scale point operation? As a supplier, I actually appreciate feedback on my own products, whether it is positive or negative, as it is a useful way for the customer to improve the usefulness or quality of goods they need.

Alan Austin
Ambis Engineering
Ilford, Essex

Operation

The arrival of MRJ No. 94 while I was in hospital gave me time to reflect upon exhibition operation, and I thought I would make a few comments.

If we consider the traditional steam era which came to an end between 1960 and 1968, with the final few years somewhat artificial, then anyone under, say, 55 would not have been able to observe steam railway working. Although anyone over that age would have had the opportunity, I suspect the majority observed trains passing by together with workings at stations, but by virtue of the fact they could not get inside the system, then observing work on, say, colliery branches, marshalling yards, goods stations or even engine sheds, was not generally available to them. Modellers do not have the opportunity to study the prototype, therefore they can only study other modellers and I guess, as a result, reality continues to be diluted in model form. Another problem is that authentic railway operation in model form is not possible if the track layout and signal system does not conform to BoT requirements. I suspect the vast majority of layouts based upon non-prototype locations would not gain BoT approval.

I guess the best way to sum up is to describe a scene at a recent exhibition. After watching two operators shunt everything on the layout – a terminal station – they stopped while a passenger train arrived, ran round, coupled up, then departed. As soon as it was out of sight, one operator said to the other, "Let's do some shunting", so they began to move all the wagons around again! One reason this happens is the belief that you must have something moving all the time in order to keep the visitors to the exhibition happy. In reality there were two golden rules: the first was safety, the second was that experience ensured that the work was accomplished with the minimum number of moves. Railway work was repetition, the same moves were done day after day and they were based upon safety and experience.

I conceived 'Dewsbury' in order to be able to demonstrate working on a traditional steam railway. In a few days time they begin to extend the garage at home to provide the site for the permanent layout. If all goes well, then about this time next year the project will be well on its way.

I will be interested to see how the debate develops.

Bob Essery
Rolleston on Dove
Staffs

Terminate branch termini

The Great Debaters seem to be missing the point. A train in a branch line terminus, whether it pauses between shunting movements or just gets straight on with the next movement, is inherently boring and inherently unrealistic. Many readers' memories of their youth omit the numerous non-mechanical experiences which accompanied these events, such as the station and locomotive crew moving around to attend to their charges, the sensation of heat thrown off from a steam locomotive, the banging of carriage doors, the rattle of the station Tannoy, the idling diesel impatient to get under way, the water overflowing the tender during snatched top-ups, the taste of steam, the drifting heat of the diesel, and the tummy butterflies when the guard's whistle heralded impending departure. A five-minute station stop wasn't a five-minute rest – it was five minutes of well-organised haste while the crew and station staff completed a lot of work before the restart. You could experience none of this if seeing it through binoculars from the top of a skyscraper. Train-spotting *had* to be done from the platform where it was an experience of change – there was a quiet day and no train, then there was a train and a surfeit of activity, then there was again a day and no train. You can't recreate this on a model – all you can show is a stopped train seen from a scale half-mile. You cannot overpower the observer with a simulation of the real-life experience. Trying to remember (or imagine) these experiences in a busy exhibition hall is just impossible.

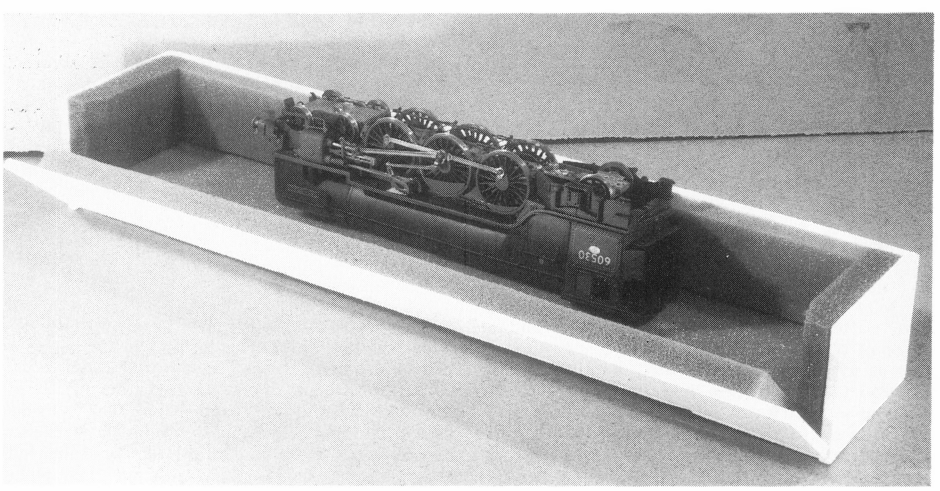
As for Bristol's shunters and Bournemouth's Pacifics doing handbrake turns and other wheel-locking activities, it seems unlikely that any engine driver would invite flat wheels and worn rail, which assuredly would incur the wrath of the Chief Mechanical Engineers. If you've seen it, you've seen a very rare driving error. I watched hundreds of Bulleid movements and, though they slipped occasionally when departing the platform over wet and greasy rail (some enthusiasts would have you believe it was common – tosh!), I've never seen one lock its wheels during braking. The problem with exhibitions is not the pursuit of accuracy, either in scale, history or operation – it is the branch terminus formula. There is nothing you can do with that kind of layout to hold interest for longer than a couple of minutes. Let's get back to twin-track ovals, where the trains run fast and long, where they accelerate beyond 10 mph and decelerate from speeds above 10 mph, and where such running can match our experience of the real thing. Shunting? Very prototypical but, because you can show nothing but the train movements, very boring. Let's get shot of the branch terminus.

Monty Wells
Gloucester

A gentle cradle

In MRJ No. 84 Bob Haskins described a soft working cradle for holding locomotives and rolling stock inverted. I made one, too, but found that the foam on the sides tended to catch delicate items such as coach door handles. The answer was to hinge one side, so that the model can be placed in 'sideways' rather than loaded in from the top. The accompanying photograph shows the end result.

Allan Sibley
Royston
Herts



REAL ATMOSPHERE

Stratford – the hub of the railway network in London's East End – not long after the last war. Perched mainly above the mean streets, the lines around Stratford have always been a magnet for railway historians and photographers, and this shot sums up all the reasons why in a single image. Traces of this remarkable atmosphere still exist today, but Stratford was surely in its grimy heyday when this photograph was taken by the late Geoff Platt, the renowned GER historian and modeller.

DIARY

MAY

10 **Loddon Vale MRC** exhibition at District Council Offices, Shute End, Wokingham, Berks. 10.00 – 5.00. £2.00/£1.00/£4.00.

16/17 **First Bangor Model Railway Club** exhibition at The Guild Hall, First Bangor Presbyterian Church, Main Street, Bangor, Co. Down, N. Ireland. 7.00 – 10.00 (Fri), 10.00 – 5.00 (Sat). £1.50/75p.

17 **Ely & District Model Railway Club** exhibition at The Maltings, Ely, Cambs. 10.30 – 5.30. £1.80/70p.

17 **Kettering & District Model Railway Society** exhibition at The Crescent Community Centre, Laburnum Crescent, Kettering, Northants. 11.00 – 5.00. £1.50/75p.

17/18 **Redditch Model Railway Club** 30th anniversary exhibition at Redditch Town Hall, Alcester Street, Redditch, Worcs. 10.00 – 5.00. £2.50/£1.50/£6.00.

24/25 **Liverpool Model Railway Society** exhibition at The Grand Hall, Albert Dock Tourist Centre, near The Pier Head, Liverpool. 10.00 – 6.00. £1.70/90p/£4.00.

31/1st June **Exe Model Railway Society** exhibition at St. Thomas High School, Hatherleigh Road, Exeter, Devon. 11.00 – 5.30 (Sat), 10.00 – 5.00 (Sun). £2.50/£1.00/£6.00.

JUNE

14/15 **Gloucester Model Railway Club** exhibition at Elmscroft Community Centre, Barnwood, Gloucester. 10.30 – 6.00, (5.00 Sun). £2.00/£1.00/£5.00.

14/15 **Whitby & District Model Railway Club** exhibition at the Whitby Pavilion Exhibition Hall, West Cliff, Whitby, North Yorks. 10.00 – 5.30 (5.00 Sun). £2.00/£1.80/£1.20/£5.50.

14/15 **Chatham & District Model Railway Club** exhibition at The Historic Dockyard, Chatham, Kent. 10.00 – 5.00. £4.00/£3.50/£2.50/£11.00.

21/22 **King's Lynn 'O' Gauge Group** 7mm show at Downham Market High School, Bexwell Road, Downham Market, Norfolk. 10.00 – 5.00 (4.00 Sun). £3.00/members £2.00.

21/22 **Wychnor-on-Trent 7mm Group** exhibition at the Maltings, Derby Road, Burton-on-Trent, Staffs. 10.00 – 5.00. Adults £1.00, children free.

28 **Nidderdale Festival** railway exhibition at the Memorial Hall, Pateley Bridge, Harrogate, North Yorks. 10.00 – 6.00. £2.00/£1.00/£4.00.

28/29 **Association of Shrewsbury Railway Modellers/Copthorne Model Railway Group** exhibition at The Wakeman School, English Bridge, Shrewsbury, Shropshire. 10.00 – 6.00 (5.00 Sun). £2.00/£1.00/£5.00.

JULY

12 **Sheredes School Association** fourth exhibition at Sheredes School, Cock Lane, Hoddesdon, Herts. 10.30 – 5.00. £1.50/75p/£4.00.

HISTORICAL MODEL RAILWAY SOCIETY
Meetings for May/June 1997

Bedford Area: 28th May. 19.30 hrs at the Addison Centre, Kempston. Pre-war colour slides, Chris Youett.

Bristol Area: 17th May. 14.30 hrs at the Somerset Room, Saltford Hall, Saltford, nr. Bristol. And you thought they were all clean, part 2, Chris Youett.

East Midlands Area: 8th May. 19.30 hrs at the Ashfield Hotel, near Mansfield. Building Pendon Style, Steve Williams.

Essex Area: 30th May. 19.30 hrs at St. Mary's Church Centre, Great Baddow, Chelmsford. Making 2mm scale work, Tim Watson.

London area: 12th May. Bits from the other side, Ian Forsyth. 9th June. Drawings from photographs, Andrew Ward. 18.30 hrs at The Prince Regent, Marylebone High Street, London.

West Midlands Area: 14th May. 19.30 hrs at the Perton Community Centre, Perton Shopping Precinct, Wolverhampton. The Kingswinford, Shutt End and Pesnett Railways, Viv Morgan.

Worcester Area: 14th May. Modelling coaches the Comet way, Malcolm Bowers. 11th June. Members' modelling evening. 19.30 hrs in the Cherry Orchard Centre, Orchard Street, Worcester.

Misc.

CHATHAM UP!

The Chatham Show – scheduled this year for 14th & 15th June at The Historic Dockyard, Chatham – is now firmly established as the best exhibition in the South East. This year, featured layouts include Dave and Shirley Rowe's 'Exbridge Quay', Newcastle & District MRS's 'Calder Bridge', 'Lesser Wenlock' by David Stone and 'Bishport' by Taunton MRG. There are 28 layouts in all, including some new exhibits from Holland. It's well worth a look, especially as there is so much more for the family to do around the Historic Dockyard.

RESISTANCE IS FUTILE . . .

It would appear to be safe to claim that resistance soldering is now a standard technique for modellers. We hear that London Road Models has just sold its 2000th resistance soldering unit . . .

PAGING THE NEWCASTLE BUYER . . .

Ian Futers has asked for our help in tracing the gentleman from the Isle of Man who telephoned him about the purchase of his 'Newcastle NB' layout. Ian can be contacted at Wansbeck House, Tallon End, Foulden, Norfolk, IP26 5AL.

The road vehicles may not be quite in period keeping with the rolling stock, but this was a set-up shot by the Model Bus Federation's publicity officer Ron Rushton, blending his early LMS layout with examples from his extensive bus fleet. The MBF is the group for people interested in modelling public service vehicles of any shape or kind. It organises regional meetings, an annual model bus extravaganza and publishes an excellent monthly newsletter, much of it in colour. An A5 SAE to Ron at Lower Bank House, High Street, Caverswall, Stoke on Trent, Staffs, ST11 9EF will bring full details.

CONGRATULATIONS

To Warley MRC, which has moved to new and much more spacious headquarters in Albert Street, Oldbury – officially opened early in May by Sir William McAlpine. The club chairman, Alf Fantham, reports that the increase in space has already enabled an upsurge in activity on layouts in all gauges. We wish the Warley gang great happiness in the new premises.

THAT'S RIGHT – BUTTONS

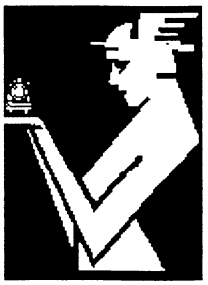
Reader J. Meacher of Wokingham drops us a card suggesting that fellow readers might be interested in the Button Museum at Ross-on-Wye as a research source. The *Button* Museum? Well yes, actually. Having seen its collection of railway uniform buttons, we can vouch that it is the sort of place you leave thinking seriously about collecting buttons. More importantly, some of the early rarities on display there give a terrific insight into the 'corporate style' and logotypes used by the smaller lines. Well worth a visit (telephone 01989 66089 for address and opening times).

SOCIETY NOTES

This year's Gauge O Guild 'Guildex' exhibition will be held at the Telford International Centre on Saturday and Sunday, 6th & 7th September (details in MRJ in due course). Meanwhile enquiries for advance ticket sales can be made to Philip Gledhill, 29 Maitland Road, Kirkliston, West Lothian, EH29 9AR (telephone 0131 333 3624).

Stafford Railway Circle has a new secretary – Andy Goodyear, Barnhurst Farm, Mosspit, Stafford, ST17 0RP. The club, currently celebrating its 40th year, has layouts in OO, EM and O and is looking for new members to join in.

M. P. Moignard, secretary of **Risborough & District MRC,** has moved to 9 The Turnpike, Oakley, Aylesbury, Bucks, HP18 9QB. (0844 238682)



One Day Mini Exhibitions at The Model Railway Club In 1997

The Model Railway Club is the oldest model railway club in the World – its roll call of members has been a Who's Who of the hobby since its founding in 1910.

In 1997 we will be holding 2 specialist one day mini exhibitions at our London club rooms.

Saturday May 10th N Gauge and 2mm Finescale

Featuring our renowned award winning layout Copenhagen Fields plus supporting layouts from other societies and specialist trade support.

Saturday October 18th LNER Enthusiasts Day

Featuring our 7mm layout Happisburgh as well as a well as Copenhagen Fields this show will be the first ever dedicated solely to the LNER and its constituent companies. The club's test tracks will available for you to bring your LNER models along too.
Specialist Historical Societes and Trade support will complete what is hoped to be an annual event.

The Model Railway Club always welcomes visitors to its Thursday evening meetings from 7.00pm at our clubrooms:

Keen House
4 Calshot Street
London N1 NDA

(Just 5 Minutes Walk from Kings Cross(+Thameslink) and St Pancras up Pentonville Rd).

Talks by noted model and prototype specialists are on the 3rd Thursday of every month during the winter starting at 7.30pm – on other Thursdays our Test Tracks host a wide variety of fascinating models under construction and our well stocked Library is open for research.

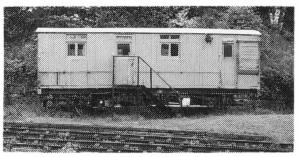
Phone our Secretary Peter Lejeune for more details on 0171-837-2542.

Why not become a member of the club that started the hobby worldwide ?

D&S MODELS

LATEST ADDITIONS TO OUR BRAKE VAN RANGE

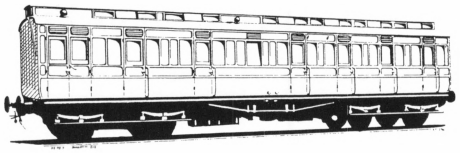
DS230. NER BALLAST BRAKE – £13.90
First introduced in 1908 with additional builds throughout the NER period, also built by the LNER in the late '20s (photograph of surviving vehicle at Goathland NYMR).



DS313. LNER (BR) BALLAST BRAKE – £13.90
Built by the LNER/BR in 1948, vehicles in service well into the BR period with several preserved vehicles (photo taken at Mangapps Farm, Essex).

Our latest release in 7mm is the GER-built Clerestory Composite Coach. Built c.1901, they were among the first of the bogie coaches built by that company as standard 'through' coaches to destinations well away from the parent system. They were used on secondary main line trains throughout the LNER period, finally finishing up on branch line use in the 1950s.

DS113-7 GER–LNER–BR CLERESTORY COMPOSITE – Price £87.00. Post £2.50.

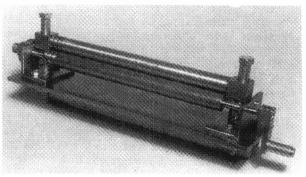


NEW IN 4MM
GER/LNER SUBURBAN 4-WHEEL STOCK
Introduced by the GER in 1899, they were an attempt to solve the ever increasing East London commuter problem and formed the celebrated 'Jazz' sets. Available in three types: DS145 – Third, DS146 Brake Third, DS147 – First. £13.90 each

NEW RELEASES FOR MAY/JUNE '97
DS618 LSWR/SR 10T Open Steel underframe. Dia. 1310. Price T.B.A.
DS630 SECR/SR Cattle Wagon Dia. 1513 – £5.10.

Post & Packing on 4mm kits – 90p per order.
4mm Price List 50p + SAE. 7mm – 25p + SAE.

D & S MODELS
46 THE STREET, WALLINGTON, NR. BALDOCK, HERTS, SG7 6SW
Tel: 01763 288 353



Price £52.50
P & P £3.50 (UK) £12.00 overseas*
(to include insurance)

6" MINI-ROLLER & RAIL BENDER
Suitable for rolling parallel and taper boilers in 4mm & 7mm scale up to max length of 6".
Also 'U' sections.
Bends 7mm finescale & coarsescale rail to any required radius.
Precision engineered from B.M. steel.
Reviewed in MRJ 78

10" MINI-ROLLER Price £60.00. P & P £3.50 (UK)* (to include insurance)

WHEEL PULLER FOR 4MM WHEELS
Self-adjusting for all sizes of 4mm wheels . . . . . £7.50 each
WHEEL PULLER FOR 7MM WHEELS
Adjustable for wheels 25-60mm dia. . . . . £9.50 each
WORM/GEAR PULLER
Type 1 (for motor shafts 2-3mm) . . . . . £5.00 each
Type 2 (for shafts below 2mm) . . . . . £5.00 each

4MM FINE PROFILE HANDRAIL KNOBS
(state short or long) £1.50 for pack of 10

WHEEL PRESS & QUARTERING JIG FOR 4MM FINESCALE WHEELS
(1/8" & 2mm axles)
Suitable for Sharman, Ultrascale, Gibson and Exactoscale (2mm).
Precision engineered from aluminium with turned steel and brass fittings.
Suitable for 16.5, EM & 18.83.
Very easy to use, quick and accurate, this tool will save you a lot of frustration and time.
Reviewed in MRJs 54 & 59. Price £19.50

*P & P: 75p with each order (UK). Overseas £2.50 unless otherwise stated**

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LNER 4,200 Gallon Group Standard Tenders

Remember the Group Standard Tender?
Good news from Dave Bradwell, the vendor.
Although it's *so* late,
It's well worth the wait.
Order kit now and we'll send her!

This comprehensive and versatile 4mm scale kit covers all significant flat-sided versions and their individual details (the flared type is not covered – yet). Prototype information is provided to indicate the correct variant for the locomotive – these tenders were used at some time with classes B1, B2, B17, D49, J38, J39, K1, K3, K4, O2, and V2.

Etched brass is used throughout with details cast mainly in brass, or whitemetal if appropriate.

Price (excluding wheels) £38.00 plus P & P £1.50 (per order).

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KEIGHLEY MODEL RAILWAY CLUB

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MODEL RAILWAY EXHIBITION

Featuring some of the best in scenic modelling including:
the first appearance of Keighley 7mm Group's new layout *"Pucklechurch"*
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+ Several other layouts shown for the first time

Full trade support from Manufacturers to Suppliers

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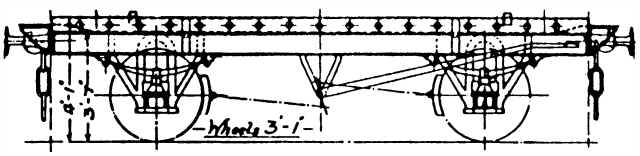
SATURDAY, 17th MAY, 1997 – 10.00-6.00 pm
SUNDAY, 18th MAY, 1997 – 10.00-5.00 pm

Adults £2.00 – Children & Senior Citizens £1.00 – Family Ticket (2+2) £5.00

DAVID GEEN

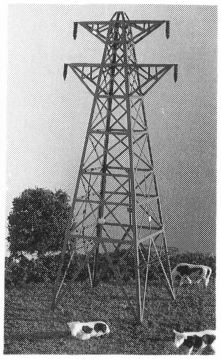
G.W.R.
Diagram G.9 'Serpent'



Our latest release in 4mm scale.
See us at Expo.

S.A.E. for list to:
30 Silverwood Close, Hartlepool, TS27 3QF

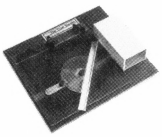
NEW PRODUCTS FROM ACME MODEL CO



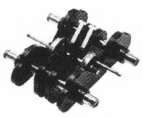
ELECTRICITY PYLON KIT
Simple brass etch kit, make up with glue or solder into 7½" (47' 6" in 4mm) representation of a typical landscape feature seen everywhere but rarely modelled. Details include insulators, barbed wire holders and warning plates (cable/barbed wire not inc.).
£14.95 inc. P & P

LAYOUT LIGHTING
Colour correction filter gel, as used in cinematic photography/theatre. In front of regular bulbs turns yellowish tungsten light to daylight effect for realism and colour accuracy. Large sheet 12" x 48" £6.99 inc. P & P. 60w or 100w daylight effect spotlight bulbs, dimmable, ES screw fit only, £5.45 each inc. P & P. **Min. order 2 bulbs.**

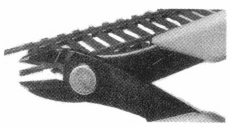
NWSL CHOPPER: Rapid, sharp, square cutting of thin strip wood/card/plastic. 30/45/60° mitre. £15.95 inc. P & P.



NWSL TRUE SANDER: Accurate, delicate, square finishing for wood or plastic. Adjustable mitre. £20.95 inc. P & P.



NWSL QUARTERER: Simple, accurate setting of drivers up to 1" OD on 1/8" or 3mm axles. £19.95 inc. P & P.



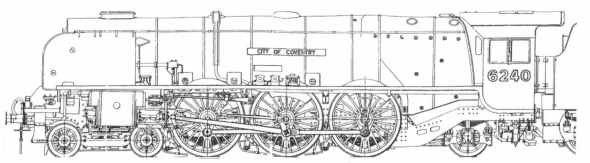
XURON TRACK CUTTER: Still the best, easiest, quickest way to cut rail square and neat. £11.95 inc. P & P.

ACME MODEL CO

Cheques, PO's (sorry no credit cards) to:
ACME MODEL CO, PO BOX 69, HAMPTON, MIDDLESEX, TW12 3NA. Tel: 0181 979-0672

MARTIN FINNEY LOCOMOTIVE KITS

LMS DUCHESS 4-6-2 in 7mm - AVAILABLE AT LAST!



Duchess locomotive kit. Ref. L7/17 - £337.00 excluding wheels, motor, hornblocks, tender, name and number plates, pickups, inside cylinder kit & inside cranks.

Stanier pattern hornblocks. Ref. HB7/5 - £8.50 per pack of six.

Extra kit to construct working inside cylinders. Ref. IM/17 - £25.00

Cast brass inside cranks for use with Slater's axles. Ref. M7/10 - £6.50 per pair.

Duchess tender kit. Ref. T7/10 - £113.00 excluding wheels.

NEW! L.N.E.R. A4 4-6-2 in 4mm

The 4mm version of my much acclaimed 7mm A4 should be available in June.

A4 Loco - Ref. L17 - £119.50 excluding wheels and motor.

1928 Corridor Tender - Ref. T7 - £39.50 excluding wheels

Please note that due to ever rising prices from my suppliers, I have had no alternative but to increase my prices, by an average of approximately 7½%, with effect from 1st April 1997. It is some four years since the last time I raised prices and I hope that those many discerning modellers amongst you will appreciate that, even at these new prices, my kits still represent excellent value for money. Please telephone to determine the new prices, before ordering kits by post.

All prices are inclusive of VAT. Overseas deduct VAT, postage at cost.
Postage & packing (UK) 4mm - kits £2.00 small items £0.50
7mm - kits £4.00 small items £1.00
Send S.A.E. for latest price list - please state scale
I shall be at - Staines Finescale 3 May - ExpoEM Bletchley 17/18 May
Chatham 14/15 June - Guildex Telford 6/7 September - Scaleforum Leatherhead 27/28 September
Next releases - LSWR/SR/BR Drummond T9 & 4000g eight wheeled tender in 4mm & 7mm
LMS Streamlined Coronation 4-6-2 in 7mm.

10 Heathfields Way, Shaftesbury, Dorset SP7 9JZ **Tel. 01747 853813**
E-mail 101676.220@compuserve.com
Internet Web Page http://ourworld.compuserve.com/homepages/Chris_Wesson/

The Chatham Show '97

14TH & 15TH JUNE
10.00–17.00 HRS BOTH DAYS*
THE HISTORIC DOCKYARD
DOCK ROAD, CHATHAM, KENT

Probably the best Model Railway Show in the south-east...

20,000 sq. ft. of exhibition halls with at least 24 of the best model railway layouts to be seen, and the best small supplier and trade support you'll find anywhere!

**last new admission 16.00 hrs*

Adult – **£4.00** OAP/Student – **£3.50**
Child (5-16 yrs) – **£2.50** Family – **£11.00**
(A Family is 2 Adults and up to 4 Children)

RAIL: Connex South Eastern from Victoria/Charing Cross to Chatham.
BUS: An EXHIBITION PAYBUS SERVICE will link CHATHAM RAIL STATION and the HISTORIC DOCKYARD MAIN GATE.
CAR: Signposted ⚓ from Junction 3, M2.

CHATHAM & DISTRICT MRC

NEW

517 CLASS

4mm & 7mm scales

This model is my latest release and covers many variations of this long-lived class. The loco kit is finely etched in brass and nickel silver and features a wealth of fine detail. Castings are mainly lost wax brass together with whitemetal and turned fittings. OO, EM, S4, O and S7 are all catered for in the two scales.

Construction is very straightforward with plenty of slots, tabs and other building aids. This kit would suit a first-time loco builder as well as the more experienced due to its non-complex nature.

The prototype was a fascinating and attractive animal with many changes and variations over its long service life. The kit caters for many of these variants with a choice of wheelbase, bunkers, smokeboxes, firebox, valances, steps, cabs, etc., allowing the builder a substantial prototype range.

★ 4mm scale – £85.00. ★ 7mm scale £185.00

Wheels and motor required to finish.

SAE for latest list.

Next loco 4575 class and 4555 class.

★ New 7mm scale double chimney in copper for 'Castle' class	£12.50
★ Mechanical lubricator for 'Castle' and 'King'	£7.50
★ BR smokebox lubricator covers (brass)	£3.50 per set

MITCHELL DESIGN

Lower Marsh, Howard Lane, STRATTON, Bude. N. Cornwall. EX23 9TE

Telephone: 01288 354645

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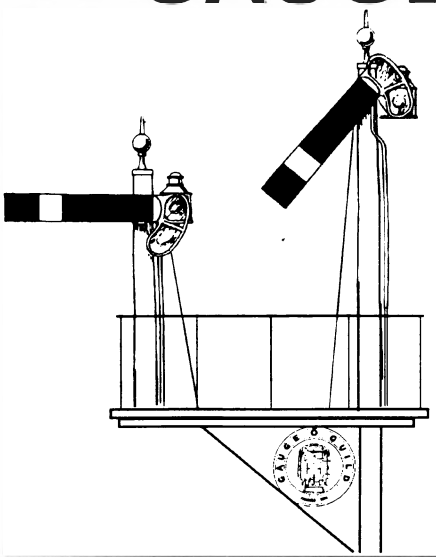
with the GAUGE O GUILD



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